

Improving COLLEGE AND UNIVERSITY *Teaching*

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EIGHTH YEAR

Improving College and University Teaching

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The Editor's Uneasy Chair

Two students sat munching sandwiches. Said one: "Hurdles set along a race course are exciting, but hurdles in a classroom are exasperating. Why is that?" "What do you mean?" asked

the other. "Well, take old Mumsey. He obstacle courses has fifty of us, but he talks only to the A. B. C.'s. If my name was Abbott, I'd be in first row, but we Youngs and Zilks hardly hear a sound. He and that little bunch up front have a chatty time together, but in the back we might as well be deaf."

"Mumsey's not the only one. You'd think a dean would be someone to hear. Dean Maxim talked to us the other day on 'Job Opportunities' —or I suppose he did. I never got a word. Can you lip read?"

"It's an idea, I believe I really do sometimes. Just the other day I realized I was watching Mumsey's lips and getting a few words."

"Well, Crane's got Mumsey beat. He goes for a lot of outlining and drawing and chalk talking with his back to us. By the time he moves away from the blackboard so at last you can see what he has been writing, you've lost the clues you may have picked up while he mumbled away. Lip reading wouldn't help with Crane. We don't often see his lips."

"So you can say that in Mumsey's class you might as well be deaf and in Crane's both deaf and blind."

"But blind and deaf people often find their handicap a challenge. Take Helen Keller."

"Yes, but there's a big difference. Hurdles are exciting because they're put there to be hurdled. A handicap—a natural handicap—is something that just has to be dealt with, and so it's a challenge. But Mumsey and Crane put obstacles in the way that just ought not to be there."

"Both Crane and Mumsey are famous scholars."

"Yes, I've seen items about their research grants, their famous discoveries. They read papers at meetings and get newspaper mention, but I wonder if anybody can hear them read. Crane and Mumsey probably are among our top men here—really noted scholars all right."

"But how can you call them teachers?"

DMG

The Professor and His Guests

"REMEMBER that your classroom is, for the time being, your own house. Treat the men as your personal guests, and you will have no trouble." So was Bliss Perry advised by his father. Looking back after fifty years of teaching, he wrote that he believed the advice was "the word of final wisdom."

Acceptance of this concept might for many of us seem the assuming of a new role. Yet, is it? Is not the role quite congenial? Has not each of us accumulated knowledge and cultivated personal qualities for teaching? If we but stop to think about it, are we not, or at least do we not aspire to be, good providers and gracious hosts in our classrooms?

Like hosts, for example, we are inescapably responsible for the physical aspects of the classroom. Basic comforts usually go along with the room itself, but properly the professor must decide whether heat is to be stepped up or down, ventilation adjusted, window shades and lights attended to, doors and transoms closed to keep out disturbing sounds. We arrange the room so that all can see and hear; at least we should. Poorly appointed classrooms sometimes indicate faculty neglect to insist upon flexible seating and other provisions for effective classroom communication. Probably many classrooms would be more attractive if we accepted more actively our role of host.

Comfortable, convenient, and clean appointments are, of course, only the beginning of hospitality. Food is the universal symbol of the good host. The fare we offer is for the mind and spirit. By preparing ourselves as masters, exponents, and interpreters of our subjects we are equipped to

provide food for our students' minds and hearts.

Do we lay the buffet appealingly? Do we set out the viands in order? Do we suggest what may be tasted, what may be found most delectable, what may be indulged in most freely? Do we do more than merely provide a meal—do we inculcate a diet? This is no feast of a moment only but a portion of the lifetime nurture of student personality.

The spirit of our hospitality doubtless often needs stepping up. If we take more committedly our role of host, we still will perform it better. We do have something to share with our guests. We value it ourselves, appreciate its worth, have pride of possession and a generous desire to have others appreciate and enjoy it too.

Enjoyment, indeed, is a requisite. Cheer at meals is of the highest psychological and physiological importance. Ebullient merriment has only rare place in the classroom, though often sought at dinners. But pleasure in the classroom feast is something to seek, not by sprinkling of meretricious salt and spices, but by making the knowledge, the appreciations, skills, and whatever else is taught meaningful so that its innate delights are revealed.

The analogy can scarcely be overemphasized. *Alma Mater* means literally "nourishing mother," and we as teachers, on behalf of our college or university, are truly dietary ministers to our students. The nurture of the intellect is our function. Human being and becoming are advanced only in part by material food; they depend even more upon the nourishment of the spirit. This latter is what teaching is.

DMG

Superior Teaching in the Colleges of the Sixties



With a professional background of distinguished service in higher education through thirty-two years, the author of the following article is preeminently qualified to chart the trail of college teaching for the decade ahead. Now the director of the Institute for Higher Education at Columbia University, he has B.A. and M.A. degrees from Buffalo and the Ph.D. from Chicago, besides nearly a score of honorary doctorates. He has been a university president, author of many books, member of many survey and other commissions, leader in the general education movement, and was United States Commissioner of Education 1949-53. He was leader last February of a statewide conference on college teaching at Oregon State College, and the article here presented is based on an address he gave at that time.

By EARL J. MCGRATH

NO SUBJECT IN HIGHER EDUCATION more fully deserves the serious thought of members of the profession than superior teaching, its salient characteristics and its causes. Dexter Perkins, the distinguished historian and then president of the American Historical Association, in 1956 highlighted the importance of this subject when he remarked that

A large proportion of the members of the American Historical Association are college teachers. Yet in seventy-odd years of the history of this organization no presidential address has directly dealt with the central function of our profession . . . In the university world, as we face increasingly complex problems, we are perhaps more aware than we used to be of the significance of classroom activity in stimulating the young people of our land. But still the fact remains that no President of the Association has ever addressed himself directly to the problem of college teaching.¹

This subject has, unfortunately, been equally neglected by most of the other branches of the learned world. The necessity of being seriously concerned now about the quality of teaching at the undergraduate level is dramatized by the imminent avalanche of students. The essence of the

present situation is that thousands of additional college teachers will be needed, and their training both preservice and in-service ought to be as effective as possible.

No group of educators needs any statistical proof of the increasing waves of students that will inundate our college and university campuses in the years immediately ahead. Sometimes, however, gross statistics on enrollments obscure as many important facts as they reveal. In a discussion of this subject, it is important to note that: (1) enrollments in the undergraduate divisions of our system of higher education will skyrocket in the decade ahead; (2) enrollments in the junior and community colleges which typically provide general, as well as specialized education in the first two years, will increase more rapidly than those in the four year undergraduate divisions; (3) enrollments in undergraduate schools, such as business administration and engineering, will continue to grow more rapidly than enrollments in the liberal arts colleges; but (4) the curricula in the former will contain increasingly large elements of instruction in liberal arts subject matter. Two recent reports on business education document the view that this trend toward a broader professional education is already well under way.

These four facts taken together suggest that the demand for teachers of undergraduate subjects such as English, history, chemistry, mathematics, and foreign languages will soon skyrocket. They also suggest that the range of ability and interests among college students in the aggregate will change. Few will take exception to the recent arguments for excellence in higher education. College and university programs are needed to serve the special abilities and objectives of students of very high intellectual quality and motivation. There can be no doubt that our preoccupation with the arduous task of trying to provide equal educational opportunity for all has penalized many students of unusual intellectual promise. Hence, some institutions can properly adopt programs and admission standards designed especially to serve the interests of students of marked intellectual ability, and all institutions of higher edu-

¹ Dexter Perkins, "We Shall Gladly Teach," *The American Historical Review*, January 1957, p. 291.

cation might very well provide special treatment for *selected* groups of their students of this quality.

Nevertheless, any realistic discussion of college teaching cannot lose sight of the fact that for better or worse, the people of this country seem committed to the principle that an increasing percentage of our young people shall have some kind of advanced education. In the absence of a revolutionary change in American social philosophy, it is not extravagant to assume that half or more of our young people will attend some kind of collegiate institution within the next twenty years, as indeed more than 40 percent in some communities already do. These students will exhibit diverse educational backgrounds. We sometimes misconceive the present selective quality of American higher education. The fact is that even in many of the well known private colleges and universities which can apply restrictive procedures of admission much more easily than their publicly supported sister institutions, the majority of students are below the level of the upper fifteen percent of high school students to which some of Mr. Conant's recommendations particularly refer.

The fact that a majority of college students will not enter the professions or other occupations requiring highly specialized instruction must, therefore, be a primary consideration in any discussion of superior teaching. As citizens, however, they will all require a broad education to prepare them for the competent discharge of the responsibilities of citizenship and for the other complex life situations which are the common lot of all.

In these discussions a possible source of confusion ought to be avoided, therefore, by being clear at the outset that "superior teaching" and "teaching superior students" are not synonymous terms. The latter is an important professional responsibility, but in some ways it is less a problem than teaching students with a wide range of ability. Superior students ought to, and often do, learn efficiently under the minimum of direction from an instructor. But the less able students require more personal attention and more frequent help. All signs indicate that the future need for this type of superior teaching for a broad range of college students will be great indeed.

What can be done now to guarantee that capable college teachers will be available when needed? This subject can be divided into two parts, the first dealing with the basic training most likely to produce fledgling members of the

profession who can become superior college teachers, and the second concerning the type of experiences such persons will find helpful in maintaining and improving their competence as superior teachers.

First, it is just as important to select superior persons for college teaching and to give them superior preservice training as it is to keep them intellectually alive and technically competent after they assume their duties. A studious examination of the pertinent facts bearing on the answer to the question as to the availability of an adequate supply of new teachers of superior ability suggests that the corps of qualified teachers will be markedly insufficient. Indeed, the supply of such college teachers has already begun to contract. A research report recently issued by the National Education Association shows that the level of formal education among college teachers is already falling sharply. "Since 1953-54, holders of the doctor's degree among newly employed full-time teachers have decreased 25.2 percent and those with less than a Master's degree have increased 26.9 percent."²

These figures show that prospective college teachers now receive less formal graduate education than their immediate predecessors. The mounting intensity of the competition for teachers, the probable improved attractiveness of beginning salaries, and the consequent relaxation of the pressure on students to pursue advanced degrees, will doubtless cause many not to complete the requirements for such degrees. Unless checked, these forces will unquestionably in time adulterate the general quality of college teaching as a whole, with a resultant deterioration of the quality of undergraduate education. In the face of this situation, those responsible for higher education have good reason to ask, "What can be done to improve the supply and the quality of college teachers?

One long range method of guaranteeing an adequate supply of superior teachers needs no urging among members of the profession. Yet it ought to be driven home in the minds of Americans generally. It is not closely related to the processes of education themselves, but rather to the place of the teacher in American society. It will be generally agreed that superior teachers have imaginative, vigorous, creative minds and personalities which inspire confidence, respect,

² National Education Association, *Teacher Supply and Demand in Colleges and Universities, 1955-56 and 1956-57*, Washington, D. C., 1957, pp. 17-18.

dedication, and indeed affection. In the main these are the same qualities possessed by the highly competent in other walks of life. Hence, educational institutions compete for superior ability with the medical, legal, engineering, and the other professions, with government, with industry, and with other segments of our economy. Though the number of outstanding men and women in college teaching is large, the conditions of compensation and of social status cause many young people who could become exceptional teachers to choose other callings. Whether one accepts Mr. Ruml's proposals or not, it must be admitted that the material and psychological rewards of teaching must be enhanced if the profession is to attract and hold good teachers. When these conditions prevail a larger percentage of superior minds will choose teaching for a career and those who do will not find it necessary to engage in practical research, consultation, and other activities which necessarily divert their energies from effective teaching. There may be few things we would care to imitate in the Russian system, but their respect for, and reward of, competence in teaching at the higher levels deserves our emulation.

But what can be said about the improvement of the standards of teaching efficiency among those who under our system do choose this occupation for a life work. The improvement of teaching at both the preservice and in-service years is a complicated matter. In this discussion attention can be focussed on only three components in the teaching process: (1) knowledge of the subject to be taught, (2) general intellectual competence and culture, and (3) skill in the professional activities peculiar to the teaching profession.

On the first of these qualities of the good teacher, educators and laymen almost unanimously agree. Numerous investigations of the characteristics of a superior teacher such as opinion polls among students and professors, as well as ordinary common sense, attest that the able teacher knows his subject. But usually these three words "knows his subject" are not explained in terms of the responsibilities of the good teacher to the great range of students mentioned earlier who come under his tutelage.

But what ought "knowing one's subject" mean? For the purposes of undergraduate education it ought to mean having a capacious grasp of the subject matter of a discipline and of its related fields. In this connection the important consideration is the fact that except in the major

field students usually take only one or possibly two courses. Hence, these courses for the 80 or 90 percent of the students who are not going to major in the field cannot properly be narrowly specialized instruction preparatory to a sequence of advanced courses. If he is ever to do so, in these general courses the student must gain a command of the broad basic principles of the various fields of knowledge and skill in their application to the pertinent life situations. Moreover, he ought to be tutored in the habit of seeing the relationships between the subject being studied and the related disciplines, as well as the perplexing situations beyond the classroom.

Hence, in a first course in psychology, which for most students will be the last, it is not appropriate to dwell on the detailed esoteric material concerning the structure and functioning of the nervous system, the various theories of color vision, and highly technical learning theory, which even some Ph.D.'s in the field find difficulty in understanding. On the contrary, the average student needs, and will be vitally interested in, many topics customarily reserved for advanced courses, material dealing with the psychology of simple mental disturbances, reading, propaganda techniques, advertising, and child growth and development. Nor ought a nonmajor student in a first course in biology spend hours drawing or describing amoebae, paramecia, coelentera, and crustacea while learning nothing of the structure and functioning of the human body, nutrition, bacteriology, and the endocrine system. For the undergraduate teacher, then, "knowledge of his subject" means more properly an acquaintance with the key ideas, the most advanced theories, the sources of new knowledge, the broad generalizations which apply to the field as a whole rather than the advanced, highly specialized factual data needed by the teacher of very advanced undergraduate or graduate students.

A teacher of undergraduates can hardly be superior unless he knows his subject in the broad. Many of those dedicated to factual research in a narrow field and those who prefer only to teach advanced students believe that the teacher who commands a sweeping knowledge in one of the major branches of learning, such as the social sciences, must inevitably be a superficial teacher, an intellectual dilettante, a dabbler in learning. This evaluative judgment rests on a false conception of undergraduate teaching which is not to fill the students' minds with predigested facts and

theories, but to awaken intellectual interests in a variety of life situations and problems and nurture habits of reflective and analytical thought on them. The fallacy of the specialists' thinking was expressed long ago by John Stuart Mill who said:

To have a general knowledge of a subject is to know only its leading truths, but to know these not superficially but thoroughly, so as to have a true conception of the subject in its great features; leaving the minor details to those who require them for the purposes of their special pursuit. There is no incompatibility between knowing a wide range of subjects up to this point, and some one subject with the completeness required by those who make it their principal occupation. It is this combination which gives an enlightened public; a body of cultivated intellects, each taught by its attainments in its own province what real knowledge is, and knowing enough of other subjects to be able to discern who are those that know them better.*

If teachers are to be properly prepared for the cultivation of these intellectual traits their own training ought to be broadened beyond the narrow limits of a newly sprouted twig, on a small branch, of the main trunk of knowledge in the sweeping forest of modern learning. They must study broadly in one of the three major areas of learning.

Moreover, the concept of the type of research suitable for those who are to receive the Ph.D. degree and then devote their lives to college teaching requires enlargement. The published literature of the institutions which prepare college teachers, insofar as they make any attempt to state their functions explicitly, dwells upon preparation for another type of professional activity, namely, original investigation. Until the meaning of the term "research" is broadened to be inclusive of several types of creative intellectual activity, the training of superior college teachers will be handicapped.

A good beginning could be made in improving college teaching by clarifying the meaning of the term research, and by establishing a generally acceptable difference between research and scholarship. In present use the most common meaning of the term research denotes original investigation which produces new knowledge. The investigator engaged in such activities is expected to penetrate an area of reality not previously explored and to discover new facts. The recent dramatic advances in physical investigation have strengthened the positions of those who contend

that only this type of original investigation is worthy to be called research.

Another type of creative thought, however, is no less worthy of intellectual effort. Activity of this type might be termed conceptual investigation. In the following statement W. H. Cowley has clarified the distinction between the latter type of inquiry and the former:

Factual research consists in adding new facts to the store of knowledge, facts which enlarge upon existing data or which open up new areas of knowledge Conceptual investigations differ from factual studies in that they either appraise and reorganize facts already in hand or do the same for existing concepts. The work of Einstein constitutes a dramatic illustration of conceptual research; he never, I understand, undertook any factual investigations but, rather, worked entirely with mathematical and physical concepts. Physicists and astronomers, however, had to check his findings by means of factual studies. This must be emphasized because it makes clear the unequivocal necessity of keeping both kinds of research constantly in the balance. Frequently, however, the same individuals do not undertake them since each variety demands different capacities.⁴

If the term *research* were limited to investigations which lead to new facts and the term scholarship covered activities concerned primarily with the reassembling of existing materials and their interpretation for instructional purposes, it would be reasonable to contend that all college teachers should be scholars, but that all need not be engaged in original research. The justification for this point of view derives from a consideration of the functions of college teachers.

The processes of evaluation and judgment involved in a critical examination of ideas, theories, proposals, and hypotheses are those which the average citizen needs in his everyday life if he is to live intelligently. The prospective teacher of undergraduates should be habituated to their use and skilled in nurturing them in others. The educated adult, faced with complex problems in the physical or social world, cannot launch an experiment to discover the solution he requires. He needs, instead, to be driven by intellectual curiosity, to possess the ability to discriminate between reliable and unreliable sources of information, and to be skilled in evaluating knowledge which already exists. Hence, the concept of research as an integral part of the Ph.D. degree program for college teachers ought to be sufficiently capacious

* John Stuart Mill, *Inaugural Address*. Boston: Little and Gay, 1867, p. 7.

⁴ W. H. Cowley, "College and University Teaching, 1858-1958," *The Educational Record*, Vol. 39, No. 4 (October 1958), p. 324.

to include intellectual activity concerned with the critical integration of large bodies of diversified knowledge in meaningful units of instructional materials. If this change were made in the training of college teachers Aldous Huxley could no longer remark that:

Like the poor, pedants are always with us, always have been and presumably, always will be. Nothing can be done to check the tendency of learned men to become pedantic. But something can definitely be done to change the system under which a doctoral thesis on some intrinsically unimportant topic, some tiny piece of nonsense totally irrelevant to everything, is made a passport to the teaching of a college course, let us say, in philosophy or English literature.⁵

Dr. Perkins pointedly expressed the same view when he said:

... is it unreasonable to ask, when we undertake or suggest a piece of research, that it should bear some relationship to a broad pattern, that it should be more than an isolated intellectual adventure (appealing as that can be), that it should be also a contribution to some larger conception of the past? There is another way of saying the same thing. Some of the most fruitful research is often the asking of questions about matters with which we are already familiar (the age of Jackson, for instance, or the age of reform) in an attempt to develop new insights rather than to explore the hitherto unexplored. Such researches may not be wholly justified in terms of the interpretation which results. But they are decidedly stimulating. They proceed, as pedestrian research does not, from a kind of intellectual audacity very far removed from the exhaustive interpretation of some subject which scarcely ties in with any broad conception of history.⁶

The college teacher's primary responsibility is to cultivate these abilities and traits. The exercises in which he engages in the scholarly activities of his graduate years ought to prepare him to do so. After he enters upon his professional duties the college teacher ought to devote the major portion of his intellectual energies to keeping himself informed about the development of new theories and knowledge in his own and related fields.

In his *Mission of the University*, Ortega y Gasset vividly sets forth the qualities of mind which the superior teacher of youth today ought to possess:

The need to create sound syntheses and systematizations of knowledge, to be taught in the "Faculty of Culture," will call out a kind of scientific genius which hitherto has existed only as an aberration: the genius for integration. Of necessity this means specialization, as all creative effort inevitably does; but

this time, the man will be specializing in the construction of a whole. The momentum which impels investigation to dissociate indefinitely into particular problems, the pulverization of research, makes necessary a compensative control—as in any healthy organism—which is to be furnished by a force pulling in the opposite direction, constraining centrifugal science in a wholesome organization.

Men endowed with this genius come nearer being good professors than those who are submerged in their research. One of the evils attending the confusion of the university with science has been the awarding of professorships, in keeping with the mania of the times, to research workers who are nearly always very poor professors, and regard their teaching as time stolen away from their work in the laboratory or the archives.⁷

The colleges today need thousands of teachers who, in the words of Ortega, will constitute a "Faculty of Culture." Such an occupation should be exciting to the searching mind. The intellectual exercise of synthesizing exciting factual material in capacious patterns of meaningful relationships and generalizations can be just as stimulating to the pursuer of truth as that of analyzing small areas of reality. The volume of knowledge, the sweep of imagination, and the discrimination of judgment required in the selection and interrelationship of germane material in a systematic treatment of a large subject should be a challenge to the most robust minds.

For the time being the graduate schools are unlikely as a group to produce persons of these capacities though many of their products acquire them through their own devices. College teachers who wish to become superior members of their craft will find it necessary to extend their own knowledge after they begin to teach and to design their own undergraduate courses on a broader basis than is common. Inservice programs in colleges could well provide part time opportunity for ambitious and dedicated faculty members to extend the range of their learning through instruction in fields related to their own. The following proposal made by Professor Douglas Carmichael has real merit:

In some institutions, usually those where the pressure to publish is light, there are always some men taking courses taught by their colleagues. Why shouldn't this practice become more widespread?

Let it be required, for example, that at least once every two years every faculty member who already holds a doctorate shall take at least one course—preferably, until the supply of departments runs out, in one in which he has had no previous work. If he

⁵ Aldous Huxley, "Teaching and the Realities of Life," *Improving College and University Teaching*, Vol. VI, No. 3, Summer 1958, p. 68.

⁶ Perkins, *op. cit.*, p. 295.

⁷ Jose Ortega y Gasset, *Mission of the University*, trans. H. L. Norstrand (Princeton, N. J.: Princeton University Press, 1944), pp. 91-92.

chooses, he may alternate these ventures into the literally, to him, unknown with additional courses in departments where he already has some interest, so long as they lie wholly outside his teaching field. And for the semesters in which he takes such courses, let no administrative officer demand of him a single line of print or a single research note. Let the English professor learn something about geology, the mathematics instructor study beekeeping, the specialist in business statistics gratify his mild, but hitherto unsatisfied, curiosity about the history of Russia. If such a policy were established in every college we might be in less danger of the progressive dehumanization of even the most humanistic studies.⁸

In addition to the general knowledge in his own area of learning—the humanities, for example—the teacher ought also to expand his grasp of the subject matter of other fields, not only because he ought to be a well informed and intelligent citizen, but for the more efficient discharge of his professional responsibilities. The teacher of any subject ought to exemplify the qualities of mind and character associated through the centuries with liberal education. Institutions of higher education have to a degree lost their effectiveness in convincing young people of the value of a liberal education because the members of its faculty themselves do not reflect such an education. College teaching has in recent decades become more and more concerned with the transmission of knowledge in a relatively small area of learning and less and less with the total life of the student. There have been countervailing influences such as general education programs, extracurricular activities, dormitory and student union programs, and personnel functions of various types all of which play an important part in the rounded education of the individual. But the teacher can and should be the central element in the rounded development of college students.

To discharge the broad responsibilities of teaching, however, the instructor himself needs a generous education. Broad learning will provide that richness of understanding required to assess the utility of various types of knowledge in living an effective and satisfying personal life. The superior college teacher will be constantly concerned about one of the major objectives of liberal education, namely, the cultivation of attitudes, ideals, and traits of personality and character. These qualities, hard to describe and harder to measure, are yet the hallmark of the liberally educated person. As some one has said, they are the

qualities that remain after all the facts which were learned have been forgotten.

The teacher of undergraduates will want his students to have respect for the rights and views of others, to be humble, not only before the capricious and uncontrollable forces of nature, but also in the presence of his own ignorance, and most important of all, to be continually seeking wisdom through the extension of his knowledge and reflection on its meanings. If these are proper aims of college teaching (they ought really to be an integral part of all higher education) then it follows that teachers ought to be possessed of these qualities to a high degree. Dean Harry Carmichael in describing the traits of personality and mind which a college teacher should have, has said that our colleges

. . . want teachers who are persons of attractive personality, insight, sensitiveness, and perspective—persons who have a happy disposition and a sense of humor and who have an urge to be guides, philosophers, and friends of students—persons whom students seek out and index in their mind as grand persons and wonderful teachers. We need beauty, the seeing eye, the watchful soul, the inquiring mind. We want teachers who are free of conventional prejudices and fears, and who are articulate and skilled in conversation. Above all, we want them to have a quenched desire to instruct and inspire youth and to derive great satisfaction from assisting students to see the relationship between learning and life.⁹

Professor Irving W. Knoblock of Michigan State University in observing the limited success our institutions of higher education have in preparing youth for the comprehensive and exacting demands of modern life quotes Michael Guyer as saying that

. . . the desired result is not the sum total of accumulated information the student acquires but men and women of integrity, capable of continued growth, of meeting and solving problems, and of adjusting to changing conditions, successful in their professions and trades, men and women who work for the welfare of their families, their fellow men, their nation and the world at large. The crucial questions asked by life will be not: do you know Latin or history, or calculus or biology, important though such knowledge is—but can you observe accurately? Can you grasp a situation? Have you an open, receptive mind? Are you a self-starter or do you have to be cranked? Can you recognize and use evidence? Have you developed a problem-raising, problem solving attitude of mind? Are you sufficiently well trained to have justifiable confidence in your own judgment; yet are you tolerant of other opinions than your own?

⁸ Harry J. Carmichael, "The Preparation of Liberal Arts Teachers," from a Report of a Conference Held at Chicago, Illinois, December 8-10, 1949, sponsored by the American Council on Education and the Office of Education, ed. by Theodore C. Blethen and Russell M. Cooper, p. 18.

⁹ Douglas Carmichael, "A Modest Proposal," *Improving College and University Teaching*, Vol. VII, No. 3, Summer 1959, p. 82.

Have you an appreciation of the beautiful in literature, art, nature, and human relations? Have you developed a constructive idealism by which to steer your conduct?²⁰

Though some of these traits stem from constitutional differences and early training the majority can be deeply influenced by liberal education. Graduate programs should be designed with greater attention to the special functions of college teachers. When they are so designed, the intellectual versatility and the range of interests of teachers will commensurately expand. For the time being college teachers will have to depend upon their own initiative and resources to maintain their knowledge and interests in fields other than their own. Their impact on generations of students can be immense if they have the insight into contemporary life and the concern for the ideas and the ideals of the youth who are the subjects of their instruction.

The third element in superior teaching is skill in the special activities of the profession. In any of the other professions it would be considered absurd to say that the neophyte should recognize superior technical skill and be motivated toward constant professional self-improvement. The beginning surgeon not only learns from his professional skills by studying the literature which recapitulated the long experiences of his predecessors in operating techniques; he also begins his practical experience in the operating room under one who has already mastered the essential skills of his calling. The musician and the lawyer likewise spend much of their learning time in acquiring the techniques and the specialized knowledge of their work. Some future college teachers have the good fortune to serve an apprenticeship under an accomplished and stimulating teacher from whom they learn the special skills of the classroom or laboratory. But the majority acquire such exceptional teaching skill as they possess by the slow, wasteful and often ineffective process of trial and error. Consequently, many function throughout their teaching years far below the level of their potential efficiency.

The third area of competence of the college teacher, embracing his professional knowledge and skills, is not less important than knowledge of his subject and a broad liberal education. Today a considerable body of reliable literature exists dealing with the purposes of higher education and the

teaching practices which seem most effective in realizing these purposes. This professional lore need not be embodied in a required sequence of courses in pedagogy for all future college teachers.

Nevertheless, is it not proper to propose that those who aspire to become superior teachers should familiarize themselves with the rather substantial extant literature related to the character of the American higher educational enterprise? Should they not know something about the great varieties of students who are likely to come under their tutelage, the kind of instructional materials best suited to the needs of undergraduates, the types of measuring devices now available to determine student learning or the lack of it, the motives of young people in today's culture, the psychology of learning, and the place of higher education in the future economic, social, and cultural development of the United States? These and a host of other matters can now be illuminated by research studies and systematic analyses by reflective minds of current problems in American higher education.

Some universities now offer instruction dealing with these facets of college teaching. Oregon State, Syracuse, Michigan, Minnesota, Columbia, Chicago, and Michigan State universities have offered this type of preparation for some years. As an increasing amount of such instruction is provided for candidates for graduate degrees in the academic and professional fields, teachers are enrolling in such courses, or seminars, either as part of their program for the degree, or as an element in inservice training.

The single most effective device for improving the quality of college teaching in recent years has been the workshop which under a great variety of auspices and programs has given active teachers an opportunity to meet with their colleagues from other institutions to discuss these and other matters, to exchange experience, to redesign their own courses, and to modify their teaching procedures. Almost invariably persons returning from such an experience also act as yeast in leavening the entire substance of the institution's program.

Theoretical knowledge of the specialized activities of the teaching profession needs to be buttressed by observation of, or active practice under the supervision of, a skilled teacher. There are many activities and functions of teaching which can no more be learned by second hand experience, such as reading or listening to lectures, than the skills of flying an airplane can be acquired through

²⁰ Irving W. Knobloch, "Pro Bono Publico," *Improving College and University Teaching*, Vol. VII, No. 3, Summer 1959, pp. 86-87.

a study of aerodynamics. A group of distinguished mathematicians some years ago recognizing the indispensable value of practice in the classroom proposed the following requirements for advanced degrees in mathematics:

- a) The equivalent of one year of observation and assisting three times a week in various college courses in mathematics which are taught by experienced members of the department of mathematics.
- b) Practice teaching in college mathematics under the observation of, and with later criticism by, members of the department of mathematics. This teaching might advisably be done in different courses and should amount to the equivalent of at least a two-semester hour course. The practice teaching should involve participation in the construction and grading of examinations.¹¹

Improvement in college teaching can be accomplished if all graduate departments would require their candidates for teaching degrees to serve an apprenticeship under a good teacher of undergraduate students in which the neophyte teacher would both observe his mentor and also give instruction for at least a full course under his guidance and criticism. This process would be expensive of the time of both, but the rise in learning efficiency on the part of undergraduate students would be incalculable. Foundations interested in the improvement of college teaching could fittingly provide funds for teachers already in service to visit a number of institutions for several weeks to observe superior teachers in action.

One foundation some years ago sent promising leaders in administrative positions on such tours of observation. The results were highly successful not only in producing a corps of imaginative and skillful administrators but also in providing leadership in enterprises of national scope and significance. The same opportunities made available to selected promising college teachers would pay even more handsome and lasting rewards in terms of more stimulating and rewarding college instruction. In the meantime college administrators themselves could enhance teaching and enliven and elevate the now often uninformed apathetic discussions of educational issues by granting leaves to and paying the travel expenses of members of their faculties.

In any event, a variety of means are available through which college teachers can acquire and perfect the knowledge and the skills of their calling. As they take advantage of these opportunities, and also increase their intellectual resources in their own fields and in the other branches of learning they will lay the basis for increased competence. Simultaneously they will enlarge immeasurably the satisfactions which all of us who teach know to be the most enduring compensations of life. With each advance in competence, and the consequent raising of the quality of education for college youth, the profession of teaching will be elevated in public esteem and the entire enterprise of higher education will be commensurately benefited. These are the worthy objectives toward which all members of the profession can properly dedicate their efforts.

¹¹ Commission on the Training and Utilization of Advanced Students of Mathematics, "Report of the Training of Teachers of Mathematics," *American Mathematical Monthly*, XLII (May, 1935), p. 267, published by the Mathematical Association of America, Inc., at the University of Buffalo, New York.

Tools of Thought and Expression

"The college should know in precise and useful terms the strength and edge of every tool of thought and expression the student possesses. It should discover the extent of his familiarity with all the important areas of knowledge. It should, in short, thoroughly map both the student's assets and his deficiencies, partly to make him realize that these exist, partly to fix the dimensions of its own opportunity or obligation."

WILLIAM S. LEARNED
Two Decades of an Educational Inquiry

New York: Carnegie Foundation for the Advancement of Teaching, 37th Annual Report (1941-1942). Page 28.

Thoughts Prompted by Student Testimony



Student testimony, like other things, has its limitations but within those limitations there is no substitute for it. The recorded testimony of thirteen college seniors prompted the following article. The author is well known and nationally distinguished as scholar, thinker, speaker, writer, and publisher. He is particularly well known to the readers of this Journal as a frequent contributor and member of the Editorial Advisory Board.

By ORDWAY TEAD

THE DESIRE to pronounce generalizations about the character qualities of college generations seems irresistible; and our common curiosity about human trends encourages the effort. The results of such inquiries, I have concluded from a long exposure, are always to be taken with reservations. Indeed, in the extended history of colleges in Europe and here our present student groups are comparatively tractable, reasonably well directed, orderly, and perhaps too "conforming"—to use the favorite word of the day. Eleven Princeton seniors, in a recent study¹ spoke their pieces with some unanimity and yet with some self-conscious, individual diversities. These personal utterances had their own vividness and with Professor Butz's structuring of the inquiry there was reference in each to educational process and outcomes to college social life, to sex and alcohol, and to the ultimate aspirations of the person.

I found no pronounced pattern of response or interpretation—save one. All eleven seniors seemed agreed that Princeton supplies a "good" education if one will take serious advantage of the academic opportunity. The sense of the superiority of faculty, curriculum, methods, and goals was sincere and virtually unanimous.

What more, then, is there to say? In one sense, one may say that if this reflects the typical student response to the educational proffer, words of commendation would seem to be in order.

In another sense, however, and with the hard bitten, calculating responses which some of these

seniors made, one has the right to ask, To what purpose and end is this good education?

Here I venture to extend and elaborate my own reaction to say that these eleven seniors are sufficiently representative of the usual disparate views and hopes on American campuses across the country to supply the text for a comment on the collegiate situation which is wholly personal in reflection of my own philosophy of higher education. I would first say this. I would make clear a sincere admiration for the academic-curricular structuring at Princeton insofar as I have become acquainted with it over the last ten or fifteen years.

My starting point might rather be, are we asking ourselves the right questions as to the end results of college educations which we regard as fundamental and central? Are we educating with the right purposes in the proper balance?

I have myself a profound unease that the goals we shoot for are less than adequate to the human, humanistic, internationalized American scene and areas of action in the current and prospective decades. Higher education is going to have to be different. That has to be a plausible premise. The interrelations and comparative emphases of knowledge, skill, attitude, and commitment surely have to be differently weighted in the future, even on the most prudential grounds, in the interest of sheer national self-survival.

I am not referring to the familiar reiterations as to the needed heightened emphasis on science and engineering. I would go deeper toward an ultimate concern, moral and spiritual in essence. And I use these words not to become obscurantist but to specify operative ideas. I cannot momentarily place it in his writings, but in a discerning article Professor Oscar Handlin uses a Deweyian quotation which is this: "All the aims and manners which are desirable in education are themselves moral. Discipline, natural development, culture, social efficiency are moral traits—marks of a person who is a worthy member of that society which it is the business of education to further."² It is the operational implementing of this whole idea with which I am concerned.

There is hardly space here to expatiate about the dichotomy frequently stressed between aca-

¹ "The Unsilent Generation" edited by Otto Butz. New York: Rinehart and Company, 1958. 189 pp., \$2.95.

² *New York Times Magazine*, June 15, 1958, "Rejoinder to Critics of John Dewey."

demic content and pedagogic method. Rather I say we have perennially to keep asking ourselves and all our professional associates the simple but essential questions: *What are we educating our youth for?* Do we clarify in terms of goals, process and method, the relationships in desirable focus and proportion of subject matter, of ways of conveying knowledge, of building points of view and of surcharging students with creative emotional drives?

Within the context of the eleven Princeton seniors, weighted toward a calculating, self-centered riding to material success, it seems pertinent to make a statement about the ways and ends of *life* as contrasted with the ways and ends of the *academy*. Life asks, at its noblest claim upon the person, the embodiment in living of aspects of the following: rationality, creativity, depth and breadth of affection, disposition to assume responsibility in social concerns, a developing sensitivity to greatness in historic disclosures of all the world's art forms.

And then, too, in all honesty, we have the claims that life is entitled to expect and require on its relational sides. These are suggested by mention of such emotionally loaded words as humility, perseverance, courage, considerateness, friendliness, self-assurance, reverence, awe, integrity. *Where in the maturing growth process of formal and informal education is recognition had for the cultivation of these?*

If these are not part of the province of education let us be explicit about it and try outside education to provide the other structured and conditioning supports, presumably leaning heavily on some religious appeal. On the other hand, if there is this complex of personal attitudes which are essential to the acceptable quality of the individual life, *who in education is paying attention to their evocation?* In the documents of the eleven Princeton seniors, the answer is that *no one* is paying attention to such evocation in the academic frame unless possibly it is some unmentioned chaplain or off-campus "student pastor."

For those qualities—and I include in addition, of course, a certain student knowledge of worldly facts and an animating good will—which *life* finds essential if it is to be tolerably lived, the modern college, I affirm, does not make its adequate and rightful contribution to individual intellect and character. The challenge so defined is woefully muffed, ignored, or denied; the central need for scrutinizing our basic philosophic purpose is

unacknowledged. We have lost our moorings. Our directions and our havens are obscured in the fog of a tacit existentialism (to use a convenient handle for a degree of stubborn moral irresponsibility). We have lost spiritual unity and elevation of purpose in our colleges—as perhaps we have also in our wider society.

In short, there is a virtual intellectual and spiritual anarchy, largely implicit and not overt, which is subtly corrupting the otherwise spontaneous, naturalistic, robustious outlook and desire for commitment of most healthy young people. And this is true of many young people of whom so much more might normally be expected, if the challenge of the expectation in terms they will understand were logically and appealingly put before them. At the moment they are the unconscious victims of a low level of expectation which is partly parental and partly societal.

This proffer of a high level expectancy to the skeptical, agnostic, or uncommitted youth cannot be shallow, trivial, or irrational. Nor can it be theologically retrospective in the support it seeks in order to give it a convincing substantiation of rationally defensible emotivity couched in some more or less theistic idiom.

The proffer to the student will have to be affirmative; it will have to be naturalistic while also infused with the humanly sensitive feeling for the holy; it will have to have a quality of transcendence which means that it is shot through with awareness of the power of the human spirit to rise to contact (nonverbally) with the Source of its Being; it will have to penetrate the mechanical and the deterministic with the creative, the formative, the purposeful, the goal seeking, the organically acknowledged processes of growth and sensitized emergence toward higher levels of human fulfillment as yet not even articulated.

Those teachers who can convey something of all this fresh affirmation of a natural spirituality premise, I am confident, to produce an emotional response from students in terms of commitment and persistent resolve, of which we see all too little today.

What I am striving to say is that insofar as college graduates can do no better definitionally as to life's ends than the eleven Princeton seniors set, we who boast a greater perspective on the why and what and how of American college education had better get back to a searching re-examination of our own fundamentals, of our presuppositions, and of our declared and con-

sidered aims. We should ask ourselves once more: Are all of the formulations of our philosophy adequate for tomorrow? The answer is, no!

I think these student responses are symptomatic of a tragic spiritual impoverishment no longer possible to ignore. And the answer is no longer in the employing of denominational pastors or the organizing of sectarian religious clubs in the older patterns. The answer is in the willingness of dedicated teachers to reexamine their deepest premises and reaffirm their spiritual convictions in ways which are natural, universal, tinged with emotions of concern for the ultimate destinies of each human soul in a threatened world.

I realize that the statement in either intellectual or emotional phrasing of the ultimate concern as to which the college graduate should find him-

self confronted is still embodied in no creed. Indeed, one of the creative and dedicated tasks in the conversation together of the American college faculties with their students has to be a critical yet zealous articulation of common grounds of reverential approach to the underlying ground of all Being. Not to "know" God but to accept life under this rule is surely in the direction of coherence, rational and spiritual.

Higher education properly conceived is at once an intellectual, a moral, and a spiritual enterprise and promise. The three complementary angles, namely, (1) broad and deep scientific knowledge, (2) acknowledged public accountability, and (3) sensitivity to insights of beauty and the mysterious, these stand in need of more comprehensive integration and of a more incisive and gripping consciousness of selfhood by students.

The Ph.D. and Scholarship

"The candidate working on his thesis is no longer a student: he is a scholar, elbowing his way into the professional market-place and hawking the products of his research in competition with the wares of more experienced scholars. To the confident and resilient candidate the process may provide the stimulus to a lifetime of scholarship. To the uncertain and the inflexible, the years spent in preparing a thesis may stifle the creative intellectual drive or limit its ultimate productivity."

Faculty-Trustee Committee, BERNICE BROWN CRONKHITE, Chairman
Graduate Education for Women
Cambridge, Massachusetts: Harvard University Press.
1956. Page 23.

Quintilian: Wisdom and Warning

The following sketch is offered with the approval of author and publisher (Charles E. Merrill Books, Inc.), as a sample of the distinguished writing in Frederick Mayer's new book "A History of Educational Thought." "Education is basically a vision, not a methodology." We are warned to cultivate the "inward spark" and not to be too practical.

By FREDERICK MAYER

THE ROMAN IDEAL OF CHARACTER and education is best represented by Quintilian. His emphasis on self-control, his dislike of speculation, his practical bent—all stamp him as a Roman citizen. He was born in Spain at Calagurris in 35 A.D.; he studied at Rome, where later he became a famous teacher and was rewarded for his efforts by Emperor Vespasian.

To Quintilian, the only worth-while life was that of action. Contemplation was for the scholar who wanted to escape from reality. The philosopher failed when he tried to reform society according to his own dictates and ideals. Quintilian cited the example of history and showed that, usually, philosophers had not won fame in public assemblies.

Note the profound difference between Quintilian and Plato. Plato considered education as the study of immaterial truth; society was to be governed by a philosopher king. To Quintilian the philosopher at his best was inferior to the experienced statesman and his role in life was a secondary one.

Quintilian divides philosophy into three fields, all three of which are important for the orator. First, the study of dialectics—the laws of reasoning; second, ethics—the laws of justice; and third, physics. However, Quintilian did not think of physics as a science; rather it was a study of the ways of providence. Quintilian thought that the universe had a moral purpose and that it is our duty to find the divinity which is within our soul. Physics would inspire the orator who thus would cherish a religious interpretation of life.

To become an orator, according to Quintilian, an individual should seek virtue above all other considerations. He should defend the interests of his client and he should never espouse falsehood. He should study the emotions of the audience and

at the same time cultivate the techniques of public speaking. Mere specialized knowledge of speech was not adequate, for Quintilian believed that the orator should have a wide educational background.

In the twentieth century, Winston Churchill is certainly one of the outstanding orators. The reasons for his success in public speaking are complex. He expresses himself in dramatic terms; he has the ability to coin new terms; his eloquence is almost epic and reminds us of Shakespeare and Milton. Quintilian was undoubtedly right when he told us that public speaking is one of the foundations of education.

Quintilian tells us that in a child's development the early training is especially important.

"Let a father, then, as soon as his son is born, conceive, first of all, the best possible hopes of him; for he will thus grow the more solicitous about his improvement from the very beginning; since it is a complaint without foundation that 'to a very few people is granted the faculty of comprehending what is imparted to them, and that most, through dullness of understanding, lose their labor and their time.' For, on the contrary, you will find the greater number of men both ready in conceiving and quick in learning; since such quickness is natural to man; and as birds are born to fly, horses to run, and wild beasts to show fierceness, so to us peculiarly belong activity and sagacity of understanding; whence the origin of the mind is thought to be from heaven."

"But dull and unteachable persons are no more produced in the course of nature than are persons marked by monstrosity and deformities; such are certainly but few. It will be a proof of this assertion, that, among boys, good promise is shown in the far greater number; and, if it passes off in the progress of time, it is manifest that it was not natural ability, but care, that was wanting."¹

The morals of children are easily corrupted. Our mistake, Quintilian maintains, is that we indulge them too much. We provide too many luxuries for them, and, as a result, they lack genuine appreciation. Like Socrates, Quintilian believed that simplicity is to be stressed on all levels of education.

Quintilian, progressive for this time, objected to corporal punishment which, he believed, only

¹ Institutes of Oratory, Book I.

created fear and an attitude of submission. The wise teacher would use a method of positive rewards and thus appeal to the idealism of students. Corporal punishment of students meant failure on the part of teachers. Education was to be conducted in such a way that the student would develop a sense of honor and a sense of integrity.

Quintilian held that all parts of knowledge were interrelated: a boy should not only know the elements of reading, writing, and arithmetic; he should also be familiar with poetry and science.

"In regard to the boy who has attained facility in reading and writing, the next object is instruction from the grammarians. Nor is it of importance whether I speak of the Greek or Latin grammarian, though I am inclined to think that the Greek should take the precedence.

"Both have the same method. This profession, then, distinguished as it is, most compendiously, into two parts, the art of *speaking correctly* and the *illustration of the poets*, carries more beneath the surface than it shows on its front.

"For not only is the *art of writing* combined with that of speaking, but *correct reading* also precedes illustration, and with all these is joined the exercise of *judgment*, which the old grammarians indeed, used with such severity, that they not only allowed themselves to distinguish certain verses with a particular mark of censure, and to remove, as spurious, certain books which had been inscribed with false titles, from their sets, but even brought some authors within their canon, and excluded others altogether from classification. Nor is it sufficient to have read the poets only; every class of writers must be studied, not simply for matter, but for words which often receive their authority from writers. Nor can grammar be complete without a knowledge of music, since the grammarian has to speak of meter and rhythm; nor if he is ignorant of astronomy, can he understand the poets."²

Quintilian's educational plan of instruction consists of three levels. The first level of instruction is composed of the three R's and Latin and Greek grammar; Quintilian placed special emphasis on the study of Greek at an early stage of a child's development.

"I prefer that a boy should begin with the

Greek language, because he will acquire Latin, which is in general use, even though we tried to prevent him, and because, at the same time, he ought first to be instructed in Greek learning, from which ours is derived. Yet I should not wish this rule to be so superstitiously observed that he should for a long time speak or learn only Greek, as is the custom with most people; for hence arise many faults of pronunciation, which is viciously adapted to foreign sounds, and also of language, in which when Greek idioms have become inherent by constant usage, they keep their place most pertinaciously even when we speak a different tongue. The study of Latin ought therefore to follow at no long interval, and soon after to keep pace with the Greek; and thus it will happen, that, when we have begun to attend to both tongues with equal care, neither will impede the other."

The second level of instruction includes oratory, literature, geometry, astronomy, music, and philosophy. The third level, for exceptional students only, is the school of Rhetoric which corresponds to a modern university. Here the curriculum includes logic, history, literary criticism, dialectic and, above all, public-speaking. These schools would aim to turn out a man who has the eloquence of the lawyer, and who uses theoretical knowledge for the advancement of his professional life.

The inadequacy of Quintilian's educational plan lies in his disregard of speculation. Education thus becomes a pedestrian matter. Quintilian reminds us of many American educators who are so concerned with activities and practical matters that they lose sight of the real purposes and ideals of the educative process. Quintilian, seduced by immediacy, was a victim of limited vision.

His example should be a warning to us. Education should stress the art of communication, but, even more, it must emphasize intellectual and moral qualities. Education is basically a vision, not a methodology; it is a vision of man's awareness and potentialities; man can only find himself when he cultivates the inward spark. To be too practical in education, or in philosophy, is to be misled by the idols of the tribe; it is to lose direction and a sense of purpose.

² Ibid.

³ Ibid.

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Jesus: Living Vision of Greatness

Taken from Frederick Mayer's new book "A History of Educational Thought" under authorization of author and publisher, the following article points out the qualities which have given Jesus a supreme place as "The Great Teacher." The influence of his emphasis on the importance of the individual human being is pointed out.

By FREDERICK MAYER

THE EDUCATIONAL LESSON of Jesus is that we must cultivate the individual. This demands more than lip service. We must be conscious of the individual not only as an intellectual being, but as an emotional being desiring something more than knowledge.

Real education is existential: it demands a living encounter between teacher and student, just as Jesus pictured the encounter between man and God.

Contemporaries believed God to be a force of fear who punished human beings for their transgressions. They thought that He was localistic and that He had His favorites among nations. Jesus taught that God is everywhere and that He can be worshipped everywhere. He demands not sacrifice and slavish obedience, but an upright heart. We honor God by loving our neighbor; God is not confined to one nation or to one civilization; He controls the universe.

Some thinkers might say that the knowledge of God is unessential in our concept of education. But if we translate the ideals of Jesus in a broader way and in a more profound manner, knowledge and understanding of God become one of the central problems of education. The question is: Does education give us the perspective of universality? Are we worshipping false idols, like mere utilitarian pursuits, or are we conscious of the centrality of human personality? Is our philosophy of education based upon materialism or the love of God? This does not imply endorsement of one concept of religion or theology, for man must always be open to new experiences and must be a constant explorer. However, this does imply that education must be concerned with the present as well as with the future. Education must be concerned with man's total personality and his total adjustment.

Jesus was educated at home and in the synagogue. He was in intimate contact with his teachers. To Jesus, the teacher was the representative of God, for he brought forth what is best in man. Jesus converted others by using informal conversation. In simple statements, as, for instance, "Man does not live by bread alone," Jesus could express in few words what philosophers would state in volumes. Thus, Jesus, rather than formalizing the educational process as we know it today, made it part of our entire life, of all our concerns and all our ideals.

The great teachers of mankind, like Buddha, Confucius, and Jesus, were all *personalistic* in their approach: they taught by example. They appealed to the many, not just to the elite. They believed in democracy, for they had faith that all could learn and that wisdom was universal. They spoke with firmness and not merely as debaters. They were inspired by an inner vision which they communicated to their audience.

Most teachers have little vision; they are mainly technicians. They are guided by routine and dominated by intellectual slumber. Thoreau once said that he had met few individuals who were awake; this remark he applied to teachers. But how can we teach when we ourselves are lethargic and indifferent? Jesus teaches us that we cannot communicate what we do not feel and that we cannot reach others when we ourselves live an isolated life. Our words are empty, our formulas are meaningless, if they are not exemplified by action.

Jesus reminds us of the importance of sympathy in education. He never talked down to his audience; He always respected their ability; He saw life through their perspective. Sympathy is the prelude to wisdom, and understanding is the basis of progress.

One may object that modern man can only advance through technical training since knowledge is becoming more complicated all the time. Thus, it will be impossible to be guided by the simple educational philosophy of Jesus. The answer is: We still are confused about the nature and destiny of man. We still want inner security; we still need warmth and love; we still yearn for permanent satisfactions; we still have not conquered the conflicts within and the conflicts without which threaten the very existence of our society. A

teacher, like Jesus, must have a vision of his importance and see beyond technical details. His task is not merely to impart knowledge, but to develop patterns for behavior. He must stir his students, and this can only be achieved when he really understands them and becomes part of their life.

The stamp of Jesus upon educational history in the West can never be erased. To the medieval educators, like St. Augustine, He was the great disciplinarian who taught how to avoid evil and how to find the path to God. To mystics, like Eckhart, He taught the importance of self-sacrifice and abandonment to utter poverty; that the acknowledgement of ignorance is the beginning of wisdom.

To Renaissance scholars, like Erasmus, Jesus was a more religious version of Socrates who demonstrated how the scholar must avoid folly and hypocrisy. To the leaders of the Reformation, Jesus became the symbol of a living faith who demanded education of the poor and the rich. To Comenius, Jesus was the symbol of mysticism; He showed that universal understanding was pos-

sible. To the Jesuits, Jesus indicated the importance of discipline so that damnation could be avoided. To Quakers, like George Fox and William Penn, Jesus was the symbol of love; all men are educable.

Pietists, like Philipp J. Spencer and August Herman Francke, were encouraged in their educational reforms, especially in their regard for the common people, by the example of Jesus. Pestalozzi was inspired by His example as he cared for the children of the poor and for orphans. Froebel looked upon Jesus as the ideal educator who had demonstrated the unity of man and God, and who had shown that life has unlimited possibilities.

The example of Jesus indicates the importance of creativity exemplified in action. Beyond methodology, beyond formal knowledge, is the living vision of greatness. We move forward in educational history when we stress essentials, when we feel the inspiration of great ideas and great ideals, and when we overcome all forms of lethargy and indifference.

Professor

Peace to the memory of a man of worth,
A man of letters, and of manners, too;
Of manners sweet as virtue always wears,
When gay good nature dresses her in smiles.
He graced a college in which order yet
Was sacred, and was honor'd, loved and wept
By more than one, themselves conspicuous there.

WILLIAM COWPER: *Tirocinium*



The Instructor Faces Automation¹

Those functions performed by college teachers which machines can perform as well, or better, will probably tend to be taken over by "automation." Will the teacher's real function be lost in the process? The author of the following article is a teaching psychologist who directs graduate studies in his department, includes college teaching in his research interests, is currently director of a Ford fund study of the effects of different teaching methods on different types of students, has been a divisional president of the American Psychological Association, and has received a \$1,000 award for outstanding undergraduate teaching.

By WILBERT J. MCKEACHIE

ONE OF MY COLLEAGUES, Professor Warner Rice of our English department, has been recruiting for a professor's union. He says that with the advent of television, teaching machines, and other electronic devices, professors face a future of technological unemployment. After all, why have a professor teach our television course in psychology when an actor could do it so much more convincingly? And once the course has been planned, why keep professors around at all? Professor Rice says that our only hope is a strong union which will insist on a standby professor beside every television set in America.

While Professor Rice's proposal may be extreme, the advent of television, teaching machines, simulators, and other teaching media must sooner or later force us to examine the role of the instructor. If we are to defend the instructor we need to answer the question, "What is the instructor's unique contribution to education?"

As a prelude to such a defense, we need a taxonomy of educational tasks or objectives. Using the taxonomy of Bloom and other college examiners (1956), we can distinguish several levels of cognitive outcomes ranging from the lowest level of knowledge of specifics, through application, to analysis, complex problem solving involving synthesis, and evaluation. To these cognitive outcomes we may add development of sensory-motor skills ranging from simple repetitive responses to

complex coordinated discriminative and serial responses. Finally in many educational situations we are attempting to bring about changes in attitudes, motives, or values.

The assets of the instructor will become clearer, I think, if we look at some of the instructor's usual roles and consider his effectiveness as compared with that of other teaching instruments in relation to these objectives.

LECTURING

Probably teachers spend more time lecturing than in any other role. If we look at teaching from the standpoint of providing contiguous feedback to the learner, lecturers must be pretty inefficient. Hebbian theory would predict that relatively fresh ideas would be motivating, but that experiences which are too far removed from the student's past experience would produce anxiety (Hebb, 1949). This suggests that the organization of materials should be of great importance in learning. Professor B. F. Skinner and his students have recently popularized teaching machines which present course materials in step by step fashion (Skinner, 1958). When a student misses a question on such machines, the question is repeated, but when the correct response is made, the learner proceeds to the next question. Here it would seem that the teaching machine should have advantages over the lecturer, for the sequence can be carefully planned to utilize our best research on the method of successive approximation, on concrete to abstract sequences in problem solving, and on building up generalizations from varying specifics. Lecturers, on the other hand, vary greatly in the degree to which their materials are systematically organized. Probably few lecturers use optimal sequences of presentation.

Moreover, the learner in a lecture is usually passive. Many studies of different types of learning and concept formation demonstrate that active learning is more effective than passive learning. (Ebbinghaus, 1885) Further, the lecturer presents materials symbolically. Again, for learning involving perception or motor responses, verbal descriptions should be less effective than actual sensory-motor experiences.

¹ This article is based on a paper delivered in the USAF-NRC Symposium on Education and Training Media August 18, 1959, published with other symposium papers by the National Research Council.

Because the lecture provides little feedback, because the sequence of presentation is not always optimal, because the student is passive, and because lectures provide little direct concrete experience, lecturers may be inferior to other media in certain situations involving the lower level cognitive objectives. If instructors become extinct, I suspect that the portion of their habitat from which they first disappear will be the lecture hall.

But, as I see it, the chief competitor of the lecturer is not the teaching machine, television, or film, but rather a much older invention: writing. If rate of transmission of knowledge is important, a good book is hard to beat. Not only can the reader control his own rate, but the motivated, skilled reader can traverse the printed page much more rapidly than even the fastest lecturer can deliver the same material. Almost a generation ago E. B. Greene (1928) conducted an experiment demonstrating that college students learned as much from reading a passage as from hearing the same material in a lecture.

Even though printed materials have been almost as popular as television for a much longer time, lectures have survived. Even the advent of picture book textbooks didn't dislodge the lecturer. If we'd stopped to think about this, we probably wouldn't have been surprised that dozens of research studies haven't had much impact upon lecturer's attitudes toward television.

Perhaps the lecturer's arguments are rationalizations, for there's little research to support them. Nevertheless, I suspect that we psychologists have underestimated important factors in our analysis of learning situations. Because we wish to maintain good experimental controls, rate and sequence of presentation are carefully controlled in most of our experiments. Our results lead us to stress the importance of feedback to the learner. But much lecturing is devoted to achievement of one of our simplest objectives: communicating knowledge. If the student is motivated, a good deal of communication of knowledge apparently can take place with relatively infrequent checks on the progress of the learner. In fact, Harlow's research with primates (1953) suggests that there may be some inherent satisfaction simply in learning new things or solving new problems.

By our experimental control of learning conditions we miss the important fact that when knowledge is presented by a teacher he is able to respond to feedback from the learners. This may be an important asset of the instructor. While

films and television present material at a relatively fixed rate, an instructor can go faster or slower when he gets cues of inattention, glares, or blank confusion from his class.

The reader, too, can pace himself, but the inexperienced reader may not be able to separate the meat of a book from the fat. Even though lecturers are slower than books, a good lecturer may be able to give his students all they need from a book in much less time than it would take them to read it.

Textbooks, films, and teaching machines must be organized to fit the average student if they are to be economically feasible. The lecturer, on the other hand, can not only plan his lecture for his own class, but he can respond to feedback from his students as he delivers it. This responsiveness to cues from the class is probably the reason that material can be covered less rapidly in live classes than in television classes. Yet one might hypothesize that this very responsiveness may make for greater effectiveness than that of a carefully organized, inflexible presentation.

If we examine the mass of research comparing college level instruction by television with live instruction, with this hypothesis in mind, we find some support I think. Most of the research finds no significant difference in effectiveness. But in those cases in which the live instructor was superior, it seems to me (as a biased interpreter) that the courses are predominantly those in which instructors traditionally use discussion or lecture techniques involving some student participation—courses in which the content is not highly organized, such as psychology, the social sciences, and humanities. (Carpenter and Greenhill, 1955, 1958) (Macomber and Siegel, 1956) While there is little relevant research evidence, we would thus expect live lecturing to be most effective in situations where we want to adjust to students varying in ability, relevant background, or motivation, where the content has no well-defined structure, and where flexible adjustment to the group is thus important.

In most teaching situations lecturers avow aims beyond transmission of information. College instructors often say that they provide the integration lacking in the text. Again one would expect that other means of communication could also provide integration. I suggest that what the instructor really does is to provide his own system of integration. Whether or not this is preferable to integration provided by textbooks, acceptance

of the frame of reference of the instructor does at least make a difference in the grade received by the student. Students don't need to agree with the instructor, but they do need to see the material the same way. Dr. Phillip Runkel (1956) measured the structure of instructors' and students' attitudes in beginning college courses in psychology and zoology. He found that *agreement* with the instructor's position did not predict student's grades. However, some students had attitudes co-linear with the instructors; i.e., they used the same dimensions as the instructor even though they might prefer different points on these dimensions. These students, who structured the field as the instructor did, tended to earn higher grades. Unfortunately we don't yet know whether or how the instructor can communicate his structure to students who don't already have it.

Presumably such communication is related to the psychoanalytic mechanism of identification. Yet we know very little about what factors influence us to adopt an instructor as a model. One might expect identification to have something to do with the student's emotional relation to the instructor, and one would thus expect well-liked instructors to be more effective in producing changes. But most of the studies of students' liking for instructors show that student liking of instructors is even less related to student achievement than are student ratings of other characteristics of the courses. However, the effects of identification should probably occur in the areas of attitude change rather than of achievement. In one small study we found some tendency for students of well-liked instructors to elect more courses in the same field (McKeachie and Solomon, 1958). But there seems to be little other evidence to support the identification-attitude change hypothesis.

Probably the most careful attempts to measure attitudinal and motivational outcomes have been those comparing live instruction with television instruction in the research programs at Penn State and Miami. In neither case does the live instructor seem to be consistently superior. If the student's tendency to model himself after the instructor has anything to do with personal interaction with the instructor, it may be an ominous finding that students don't seek personal conferences with television instructors as much as with "live" instructors.

One of the interesting sidelights of research on television, however, is that several researchers report that the attitudes of students toward tele-

vision are influenced by the attitude of the proctor in their viewing room. If their proctor favors television education, the students also tend to favor it. If he disapproves, so do they. This is a very simple sort of taking over of an attitude, probably too simple to even be labeled identification. But if a proctor, whose chief activity is turning on and off a television set, can have such an effect, what effects must an active, prestigious instructor have?

Summing up the liabilities and assets of the instructor as a lecturer, I would note on the negative side these factors:

- The lecture is a slower method of presenting information than reading or television.
- The student in a lecture usually plays a passive role.
- When the desired learning involves perceptual-motor responses, we would expect verbal descriptions to be less effective than visual or real experiences.

On the positive side however:

- A live instructor can respond to students. Because he can observe student reactions, the lecture may be more effective than a more highly organized, preplanned instructional technique.
- The lecture may have some motivational value beyond that of other techniques of instruction. Motives for recognition and approval can be elicited and reinforced by the instructor.

INSTRUCTOR AS DISCUSSION LEADER

Let us turn to a second common role of the classroom instructor, that of discussion leader. Most discussion leaders admit that they cover less ground than lecturers. But they argue that students can better apply the material if they have discussed it. Real "gut" learning, they say, requires the more permissive atmosphere of the discussion class.

Here, too, the evidence is scanty, but it seems to me to tend toward support of the hypothesis that discussions *can* be effective in achieving these aims. Note that I say "can be" for I suspect that much discussion teaching is relatively ineffective in achieving *any* objectives of education. (In fact, I might point out that none of the studies of teaching methods have sampled instructors in such a way that we know that the results can be generalized.)

Let's look again at the purported functions of the instructor in discussion leading. If we are trying to achieve application, critical thinking or some of the higher level cognitive outcomes, students should presumably have some opportunity to practice application and critical thinking and to receive feedback on the results. Group discussion provides an opportunity to do this. While teaching machines and mock-ups may also be programmed to provide prompt and realistic feedback, group

discussion permits presentation of a variety of problems enabling a number of people to gain experience in integrating facts, formulating hypotheses, amassing relevant evidence, and evaluating conclusions.

Ben Bloom and his colleagues at Chicago (1952) used recordings of classes to stimulate students to recall their thoughts during class. They found that discussion did stimulate more active thinking than did lecture classes. (However, it's worth noting that students' minds wandered more in discussion than in lecture.) Whether discussion results in more critical thinking than other methods of teaching is not yet established.

The "gut" learning argument is also difficult to verify. Essentially the argument is that some desired learning encounters emotional barriers which prevent it from affecting behavior. For example, a student may learn that distributed practice is effective but not change his study methods because his anxiety about grades is so great that he doesn't dare try anything different. In such circumstances experiments on attitude change suggest that the instructor must either bring about changes in underlying attitudes and motivation or must change the individual's perception of the instrumental relationship between his behavior and his motives. Psychotherapists believe that expressing one's attitude in a non-threatening situation is one of the steps in the process of change. Presumably such expression permits reduction of anxiety and also may permit the individual to perceive new instrumental relationships. A group discussion may provide such opportunities for expression as well as opportunities for other group members to point out other solutions to the problem.

In addition, most attitudes have some interpersonal antecedents and are stabilized by one's perception of the attitudes other liked persons appear to have. Group discussion may facilitate a high degree of liking for the instructor as well as other group members. Presumably the individual thus becomes more likely to adopt their attitudes. Discussion also permits more accurate assessment of group norms than is likely to occur in other techniques of instruction. Consequently, change may follow. In fact, while individual instruction would be advantageous for many teaching purposes, the presence of a group is a real advantage in bringing about changes in motivation attitudes. As Kurt Lewin showed in his classic experiments on group decision (1947), it

is sometimes easier to change a group than an individual.

Bringing this down to the teaching situation, Bovard and I showed that, as predicted, a method of teaching involving use of group decision did produce more conformity to group norms on social attitudes than did a discussion method in which the instructor played a more dominant role. This increased conformity was apparently due not only to greater liking for the group but also to more accurate perception of the group norms. (Bovard, 1951; McKeachie, 1954) Moreover, we found that our "group" teaching affected ability to apply learning even though the two types of classes performed equally well on a standard achievement test. Let me describe our measure in more detail.

Bovard and I were teaching elementary psychology classes. Our course included the standard topics of personality, defense mechanisms, and abnormal psychology. We knew that our students could learn the names of defense mechanisms and personality dynamics, but we felt that this area is one which may arouse anxiety interfering with understanding and effective use of the concepts. Our experimental classes had had a semester of free discussion and in their discussion of these topics felt free to bring in examples from their own experience. Discussion in our instructor-centered classes was also lively but more impersonal. In each class we showed a film, "The Feeling of Rejection" and at the conclusion of the film called for discussion in which the instructor played no further part. Both types of classes discussed the film vigorously and transcripts of the discussion were then taken to two clinical psychologists who knew nothing of the experiment.

The clinicians had the same reactions to the transcripts. The instructor-centered group was described as being a typical beginning psychology class, ready with labels for the behavior displayed but demonstrating little understanding of the case. The group-centered class, on the other hand, was described as having real insight into the personality dynamics involved.

Although many experiments report negative results, those of Gibb and Gibb (1952) and Asch (1951) also report that student-centered classes produced results superior to those of traditional classes on measures of behavioral and personality change. Recent research at Penn State has shown that, as compared with conventional classes, remarkable increases in motivation and critical

thinking occurred in supplementary discussion groups taught by undergraduate majors. (Carpenter, 1959)

COMPLICATING FACTORS

Thistlethwaite's recent *Science* article dealt with the relative effectiveness of different colleges and universities in developing intellectual motives in National Merit Scholars. (Thistlethwaite, 1959) The National Merit studies are shocking to our educational theories. We've always thought that prompt feedback and well-structured sequences of presentation were conducive to learning. The Thistlethwaite studies indicate that the top colleges in production of scholars are ones where tests are infrequent and where students don't know what to expect next. If this is so, maybe we need to throw some random elements into our teaching machines. In any case, it suggests that techniques most suitable for learning knowledge may not be those most effective for developing motivation and high level achievement.

This proposition is also supported by a study we conducted last year in which we found that those instructors who were the most effective teachers as measured by their students' performance on a multiple-choice objective test tended to be those with frequent tests and clear organization. However, these instructors tended to be the least effective as measured by their students' performance on an essay question designed to measure critical thinking.

Analysis of the role of the instructor is further complicated by the fact that some students do well with one type of teaching while others do well with others. Some of my own recent data show that students with low achievement motives do not achieve as much as students with high achievement motives when the instructor places little emphasis on achievement. But in classes where achievement is stressed the students with low achievement motives perform just as well as high motive students. Additional complications are undoubtedly introduced by the probability that the best method of instruction may depend upon the instructor or upon the content or goals of instruction.

The complexities of the teaching situation make a clear-cut, experimentally supported analysis of the instructor's roles difficult. Yet this very complexity is the source of the instructor's greatest strength. His ability to respond as well as to provide feedback, his ability to reinforce as well as to cue-off motives, his ability to integrate as well as to analyze responses from a group of students, his ability to guide as well as to correct, his ability to provide a model as well as to play "devil's advocate," these are the instructor's assets.

The ideal instructor, of course, would be one who, in addition to all of these, was also able to use teaching aids effectively when his purpose demanded them!

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Large Versus Small Classes



Teaching by television is revealing new knowledge about teaching. It has not only supported the use of larger classes than we ordinarily like but has shown how teaching can be made more effective. The author (A.B., Western Reserve; M.A., Ph.D., Harvard)

shares with us some of the findings of a notable experimental study in instructional procedures conducted at Miami University (Ohio) where the author is Associate Professor of Social Studies.

By JAMES R. WOODWORTH

IT HAS LONG BEEN ASSUMED by many people that small class instruction has such obvious advantages over large class instruction that the entire problem was a closed issue. While many faculty people are beginning to accept, with begrudging reluctance, the possibility that teaching may be as effective in large classes, most will never admit that large classes have any additional advantages.

For three years Miami University has been engaged in an experimental teaching program, part of which was to compare large versus small classes. For two years this writer taught and Miami's Experimental Study on Instructional Procedures¹ evaluated two sections of 35 students and one section of 70 students. This current academic year the comparison has been between one section of 70 and one of 100 students.

Because of variation in subject matter, instructor personality, and teaching techniques, none of the generalizations offered have anything like universal applicability.

This particular experiment used a course in the humanities area, specifically entitled "Essentials of Western Culture." The teaching technique is that of modified, or interrupted, lecture. The attempt is to encourage questions and comments as often as possible and, if they are not forthcoming, to interject questions or problems deliberately to change the pace of the class. For the most part, however, a rough outline is followed

mostly to keep the lecturer from rambling. No attempt is made to lecture from the textbook. This is often irritating to the mediocre student, but then he has to learn to read sometime.

Use of a modified lecture method of teaching often has some limitations. First, many students have the irritating habit of just sitting and listening to the lecture, with no attempt on their part to question or disagree. If no student ever contributes to the discussion during the classroom experience, then the instructor might just as well present a formal lecture. The faculty member can drone on lecture after lecture, with no real awareness of whether his captive audience is being excited by his suggestions, or merely breathing back at him. The key to student reaction lies almost entirely with the alert student. It is almost impossible to keep him quiet. Sometimes you wish he would be quiet. Yet whenever you have a class without him, you would give almost anything to get him back again.

Under Ohio state law, all state supported universities, including Miami University, follow a practice of unselected admissions. The introductory sections of all courses, therefore, contain significant numbers of young people who will get very little out of this brief college experience and contribute even less to it. A random sample usually includes at least some of every type, but on occasion it is possible for a small class to contain almost no one willing to contribute to class discussion. For both the pupil and the instructor, such a class is a very disappointing experience. There is no doubt about it, vigorous and questioning students make the teacher in turn more vigorous and questioning. They tend to excite each other and in turn excite the instructor. Surprisingly enough, the larger class has the advantage over the small section in helping to prevent the absence of this vigorous and questioning type. Large classes, like small classes, vary in quality, but it is almost impossible for a class of between 70 and 100 to be without a good quota of stimulating students.

Another advantage of the large class is the pressure it places on the instructor to come prepared. There is general agreement among faculty that everyone is human enough to come to class at times tired, or somewhat ill, or just simply "fed up," and that there is the temptation with the small

¹ A three-year study at Miami University (Oxford, Ohio) under a grant from the Fund for the Advancement of Education. F. G. Macomber, Director.

class just to "talk" for a period. Be assured, this rarely if ever happens in a large class. The thought of just chatting for an hour with 70 to 100 students is out of the question. In the first place, there are too many bright students around; one hates to let them down. In the second place, a restless group in a small class seems not nearly as noticeable as in a large one. Thirdly, the relations with students in large classes are just a little more impersonal. Some faculty persons may consider this a disadvantage, but perhaps more time should be spent in wondering about the students' intellectual growth and the amount of stimulation given them, as opposed to worrying about their personal problems and private lives. There is no question but that the small class encourages the feeling that we as faculty ought to get to know our students better. Perhaps this generalization needs challenging.

Thus because the larger class tends to have a larger number of better students and because the relation with them is more impersonal, the instructor tends to be better prepared. From these two results one can point to a third consequence of the large class: the discussions are generally far more valid. There is greater interest on the part of the instructor to prevent the comments from rambling all over the lot. There is more concern about drifting from the subject and greater search for penetrating questions. Every so often it becomes apparent that there has been an extremely useful and exciting discussion. Strangely enough, the rapport sensed in the large class is far more stimulating an experience than its equivalent can ever be in a small class.

As instructors we often become complacent about our teaching. The temptation merely to blow the dust off the notes again this year is ubiquitous. There are some instructors who are the eager, vital, and commendable type who destroy their notes each year so as to force themselves to write new ones. Most of us have all too human weaknesses. Not only does the large class force a deeper delving into the topic, but it also will force an investigation into new techniques to aid teaching. One of the most useful will be discussed later. What is important is that many of the old comfortable methods will no longer work so well.

In spelling out the advantages of the large class from the instructor's point of view, it is necessary to point out the importance of the room itself. Even more than the small class, a large one requires a bright, cheerful room. One semester,

schedule problems forced the writer to use a rather dreary room which crowded the students excessively. The class was obviously affected by the change. A stimulating, argumentative group had become all too quiet. Perhaps it was particularly noticeable because it was a change from a very bright room the preceding semester. Another important factor is the heat of the room. Apparently a large class can tolerate cool, almost cold rooms, and remain alert and interested. They may shiver, but at least they are awake. On the other hand, whenever the room becomes warm, the effect is deadening. Granted, this is quite true for small classes, but drowsy students in large groups make even the instructor want to curl up for a nap.

Several techniques have been most useful to improve the rapport with students in large groups. One is to break the class up into small groups two or three times a semester to discuss a special reading project they have done. Various types of reading assignments were tried, varying from straight library research type of problems to outside readings of more conventional nature. From the point of view of student relations, it does not seem to matter what kind of assignment is used. What is important is that the small group does meet and consider some topic and that there is maximum opportunity for the students to do the talking. It is truly remarkable how these discussions improve their attitude towards the class. Actually the instructor does not get to know them much better, but the students seem to feel that they know the instructor better and, perhaps just as important, they feel they know each other better.

One of the most useful aids an instructor can have is to have his teaching evaluated by an independent agency of the university. Best of all the techniques is the anonymous taped interview.² Between 9 and 12 students were selected at random from the large class and interviewed by a member of the E.S.I.P. staff. It is both amazing and reassuring to hear students comment quite candidly about the teaching ability of the instructor. Upon hearing the tape the instructor feels for the first time he is getting an honest and pertinent appraisal of his teaching from the point of view of the victims. Even more important than this, however, is the information which the students provide. As a result of their suggestions,

² For further details on use of this technique, see: Adams, J. F., Siegel, L., and Macomber, F. G. "The Use of Recorded Student Interviews as a Means of Improving Instruction." *Improving College and University Teaching*. Summer 1959.

and with the help of the E.S.I.P. staff, an intriguing device was used: the overhead projector. While not really a new device, its amazing flexibility and wide adaptability will undoubtedly cause it to be used increasingly, especially as classes become larger. It provides students in large sections with the opportunity to view maps, or charts or mere lists of important names, with all the clarity and legibility which normally exists for students in small sections by use of the blackboard. Certainly most teachers are unaware of the difficulty

which students in large sections or large classrooms have in seeing visual materials. Any or all of these techniques can be most useful in assisting with the always difficult, yet often rewarding, task of teaching.

To all who are about to take the plunge into large section instruction, then, a closing comment is this: be prepared for a surprise. Contrary to your own trepidations and the gloomy predictions of some of your colleagues, you will discover that you will be a better teacher for the experience.

Autumn Issue

The Autumn issue will complete this journal's eighth volume and will be a bounteous harvest-time sheaf of information and inspiration on college and university teaching. Articles by: R. Dermont Bell (Brigham Young University), Richard H. Byrns (Southern Oregon College), George H. Cooke (Kent State University), Paul H. Douglass (Rollins College), Roger H. Garrison (Briarcliff College), Peter F. Holub (Tri-State College), Max S. Marshall (University of California), L. W. Michaelson (University of Idaho), Richard K. Morton (Jacksonville University), Charles F. Phillips (Bates College), Gisela Stein (Brooklyn College), E. Philip Trapp (University of Arkansas), Jack W. Warfield (University of Southern California), Robert B. Wentworth (Rockford College), A. M. Withers (Concord College). Editorial: "He Must Learn for Himself."

Numinous Moments in the Classroom



Sometimes in the classroom, students like Cortez's men on Darien, suddenly straighten up and look around them with a wild surmise. The author (B.S., College of City of New York; A.M., Columbia; Ph.D., Pennsylvania) discusses such numinous moments in the classroom.

By CHARLES I. GLICKSBERG

MYSTICS HAVE DESCRIBED in ecstatic accents the numinous moments of illumination they experienced when everything that before seemed baffling and confused fell into place and all the contradictions of existence were magically resolved. At such moments, buoyed up by a transcendent vision of meaning and purpose, they could feel God's presence, hear the voice of God speaking to them directly, listen as it were to the heartbeat of the universe. Rudolf Otto, in *The Idea of the Holy*, calls the object to which the numinous consciousness is directed a "mysterium tremendum," that which is wholly other, beyond the scope of the comprehensible. The numinous experience itself cannot be identified, reduced to explicit rational categories, and this not because science has not yet succeeded in penetrating this area but because "the wholly other" does not fall within the functional limits of knowledge. Though music, tone, gesture, sacerdotal vestments, sacraments, and incantations help to suggest the nature of this experience, they are at best but indirect means. Here, in short, we confront unutterable mystery, the ineffable enigma of existence, the "miracle" of nature.

It would be absurd even to imply that in the classroom, experiences of such a mystical nature can be enjoyed. For education in college is geared predominantly to intellectual exploration; the reasoning faculty is stimulated and actively set to work; the affective or intuitional self is kept under control. Nothing of the mystical or the quasi-religious is allowed to intrude. Students attend classes in order to learn, to analyze, to question, to master a given subject matter.

And yet, surprisingly enough, occasions do arise, in the reading of a poem, the analysis of a

novel, the response to a short story or a play, when teacher and student share an insight which, however secular in content and literary in orientation, strikingly resembles the numinous.

These numinous moments in the classroom cannot be planned in the confident expectation that they will take place. There are too many elusive variables to consider in the equation: the subject matter, the students in the room, the questions asked or the material selected for discussion, the teacher as inspirational source or catalytic agent. Such "moments of illumination" come when least expected, yet they seem to occur, like the mystical experience, under certain recognizable conditions. The contact of minds in the charged atmosphere of group discussion frequently helps to generate a contemplative or intensely questioning attitude. As an idea is viewed from a number of different perspectives, each one fascinating in itself and perhaps the right answer to the question being raised, the truth is seen to be more tantalizingly out of reach than ever. And as the intellectual tension deepens, the spirit of the class is challenged. In earnest collaboration with the teacher, the students come to perceive at this juncture (each moment represents the intersection of two eternities) the sphinx-like aspect of life. It may be a line of Shakespeare that sets them off, a gripping scene in a play by Strindberg, a poem by Robinson Jeffers, the action in a novel by Hemingway or Graham Greene—this is but the springboard for a spiritual flight into the known, the stimulus for a sterner examination of the self in relation to a reality that remains forever mysterious. When the students reach an awareness of the stubborn, ineradicable limits set to knowledge, when they discover *for themselves* (all education is self-education) the insuperable barriers erected against the march of reason, when they glimpse with a feeling of astonishment or of awe the condition of mystery that hemns them in and circumscribes the mind, which is nevertheless the sole source of insight and understanding, they are both humbled and exalted. They have beheld a vision that is spiritual as well as intellectual in content, a vision that has a greater potential as a transforming agent than most of the factual material they must absorb in the curriculum.

Are these effects achieved because teaching at its best functions like a drama? Perhaps, but it is

important to point out that the lesson has not been staged. The classroom is bare of theatrical properties; there are no spotlights, loud speakers, backdrops, orchestral accompaniment. There are no trained actors (unless the teacher is to be accounted one); if a play is being enacted, it is a communal but spontaneous drama, a drama in which there is no distinction between audience and actors. What is more, though the lesson confines itself more or less to a definite theme, it follows no prepared script. The theme of discourse, however, expands, overflows, returns upon itself, is related to other themes, negated and reaffirmed. Then a conclusion is provisionally reached, only to be challenged in its turn and dialectically transcended.

These luminous and timeless moments of discussion in the classroom are perhaps not recognizable as such while they are being lived. Students and teachers are both too intimately involved in the dialectics of discussion. For example, one student has been propounding the thesis that progress is real, but he is immediately criticized, and that most vigorously, on the ground that he considers only the evidence favorable to his thesis. In his defense he argues that this is a perfectly legitimate and understandable technique. Why should he not try to make his point and score a clear-cut victory in debate? Other students, however, maintain that while it is "natural" to want to win a dispute, it is intellectually more honest to take up all aspects of a theme, to view it as far as possible from many contrasting angles of vision. Why should the judicious inclusion of evidence supporting the opposite side weaken his thesis? On the contrary, if skilfully done, it would strengthen his hand: it would give him, in the eyes of his audience, a solid reputation for intellectual integrity and fair-mindedness; it would indicate that he refuses to indulge in exaggerations or to juggle with the truth. He would achieve credit for holding the balance even, for recognizing the formidable complexity of the problem he is dealing with. He is carefully weighing all the facts, pro and con, before he finally arrives at the conclusion that progress, despite all doubts and obstacles, is real. In short, one must pay a price for whatever progress is achieved, but he can argue cogently that it is well worth paying.

Here was an admirable lesson in the ethics of controversy. And it was not the teacher who drove home the moral or delivered a homily on the difficult art of logical inquiry.

To take another example, one student submitted a composition in which he wrote his own epitaph in an ironic vein. His central idea was based on his own faith that there was no use worrying about the past or about what could not in any event be helped. Apparently this struck a vulnerable spot in the psychic armor of the students in the class. At any rate, it provoked a minor tempest of excited controversy. The members of the group insisted for the most part that, regardless of the dictates of common sense, they could not help worrying. They could not resign themselves to the verdict of the inevitable. Indeed, one student maintained that worrying performs a creative function; only the sensitive, the complex, the highly imaginative are prone to seizures of worry, and they had ample warrant for succumbing to these seizures; worrying put them on their toes, forced them to examine their potentialities and limitations, led them to brace themselves for a supreme effort, like an actor before a premiere or an athlete before a crucial race. Then someone ventured to point out that a semantic distinction should be drawn between worry, which is a "natural" function and can be justified on rational grounds, and anxiety, or at least irrational anxiety, about something which has little or no basis in fact, like psychic cancer.

These may seem trivial examples to cite in relation to the numinous experience, but those who have felt the electrically charged atmosphere of the classroom during a discussion period know that almost any subject may call forth profound and memorable insights. Time and again, the classroom ceases to be a classroom and the students in it forget their formal status, their role as members of a captive audience, the wisdom of taking notes, and plunge into philosophically heated and vital discussions. They are "alive, by God," and they are committed. At least they are playing for mortal stakes. One can never anticipate when these mental fires will start raging nor, once ignited, how long they will last or how they will end. The conditions must be right: the atmospheric tension, the spiritual and intellectual receptivity, the focused interest and awareness, the released insight. Then the questions and answers come in a fast and furious sequence. The battle is on.

The students are plunged into a battle of values, involved, as it were, in a fight over the meaning of life—their life. The "numinous" engagement may be provoked by a paper read on how to bring up children, by hand or by mouth.

The advocates of spiritual and moral guidance rather than corporal punishment will urge that it is dangerous as well as useless to chastise the erring or disobedient child. How can the child understand the reasons given for the beating that the parents administer? That is how the poison of resentment is bred, rage that may last a lifetime, hatred which, because it is unable to turn openly against the parents, is directed against the self and becomes a destructive, pathogenic element in the personality. Those who believe that as a last resort some measure of physical punishment is justified, point out that the child is like a young savage; he must be tamed, he must be civilized and learn to curb the ferocious aggressiveness of his ego; he must be shown, by force if necessary, that there are limits which he must not overstep.

But even in discussions concerned with such personal problems and experiences, how can the teacher determine the degree of commitment the students feel? Not only by the eagerness and enthusiasm with which they participate in the discussion or by the number that ask for the floor and make a revealing contribution. The telltale signs emerge when the students begin, frankly, to talk and evaluate in terms of their own experiences, when they throw off the mask of academic objectivity. What other criterion of judgment do they have? The books they have read, the lectures they have attended? Their courses in history, psychology, political science, anthropology, and sociology can only give them facts, theories, statistics, information, when what they are urgently struggling to achieve are values which will shape their lives.

One student read a paper on the theme of love in which he denounced the modern younger generation for its crass overemphasis of the purely physical element in love. This aroused a number of serious protests. They were not, one student earnestly announced, rank materialists; they did not think exclusively in terms of chromosomes, chemical reactions, "complexes," glandular secretions, repressions, sexual desires. Each student, in supporting his case, did not hesitate to give examples drawn from his own relationship with a sweetheart or a fiancée.

Or there is this memorable example. In reading "Young Goodman Brown," by Hawthorne, the students were interested in analyzing the meaning of Goodman Brown's encounter with the Devil. Who is the Devil? Is he but a symbolic

projection of our own evil thoughts? Do we tend to ascribe to others the evil temptations that we ourselves harbor within? The students were particularly impressed by the story, "The Minister's Black Veil," and by the confession Father Hooper makes upon his deathbed, explaining why men, women, and children were badly frightened by his wearing of the veil:

"When the friend shows his inmost heart to his friend; the lover to his best beloved; when man does not vainly shrink from the eye of his Creator, loathsomey treasuring up the secret of his sin; then deem me a monster, for the symbol beneath which I have lived, and die! I look around me, and, lo! on every visage a Black Veil!"

This struck home, visibly so. The students seemed to feel that we are all hypocrites, social hypocrites, at heart. Guardedly we hide our innermost thoughts, playing the game according to the prescribed social rules, observing the conventions which dictate a prudent reticence or reserve, measuring every word before we utter it, calculating the strategic value and probable effect of our utterance. Then how, in our society, can we know whom to trust? Who is genuinely our friend? Who is our enemy? Who truly loves us for what we are and who, for the sake of expediency, dissimulates his real feelings? It is so easy to pretend, to deceive others, to cultivate or "influence" people for selfish purposes.

This called forth an unusually violent emotive reaction. One student argued that it was impossible as well as undesirable to disclose to others everything we think or feel. Life would become literally unbearable if everyone suddenly decided to remove the veil and reveal whatever came to his mind. Is it not a question not of telling the truth (what is the truth?) but of human and imaginative consideration for the susceptibilities of others? Other students contend that in some cases it is possible to confide fully in others. Why must we assume that our secret thoughts are evil and foul? Why cannot two people be genuinely in love, without being infected by thoughts of unfaithfulness? Why must love, as the mad Strindberg interprets it, be a battle of the sexes? Why lay so much stress on the slimy and sinister side of the unconscious? Is there no wholesome self? Was not Hawthorne too somber in his introspections, too morbid in his revelations of the soul of man?

It is not without considerable significance that in American literature of the nineteenth century

the writer who awakens the deepest response is Hawthorne. Emerson is too transcendently remote, Thoreau too austere, but Hawthorne, though he uses the theological language of sin and grace, heaven and hell, reaches the mind and heart of the twentieth century, Freudian-tutored student. For example, in their interpretation of "Ethan Brand," the students are irresistibly led into the attempt to define the meaning of sin, the nature of guilt, in modern terms. Some, to be sure, resort to the jargon of psychoanalysis and glibly reel off such terms as "sublimation," "rationalization," "ambivalence," "projection," and "repression," but most of the students, even as they reject the language of Puritan theology and the dogmas on which it is based, are aware of the confused but painful stirrings of conscience. One student protested bitterly when he heard that the younger generation today is accused of being morally irresponsible. It is not true, he asserted vehemently. "We do feel the burden of guilt, we do suffer remorse when we do what we consider wrong."

But what is the Unpardonable Sin that Ethan Brand had committed? His crime consisted in developing his intellect to such an extent that he destroyed the delicate, organic balance between his mind and heart. He became a detached observer, a monster; he suffered from the Greek flaw of *hubris*: pride of the intellect. This was his obsession, this was the enormity of his sin: he had, through the excessive labor of the mind, lifted himself above the muck of humanity. In the meantime, his heart had contracted and hardened. What did all this mean?

At this point the students begin their exploration of the self, their trial before the court of conscience. Have they been infected with this plague of overweening intellectual pride? Have they been carried away by their passionate quest for knowledge to a degree where it made them feel superior to the rest of mankind, contemptuous of the ignorant, looking down on laborers or possibly their own unenlightened parents? Ethan Brand, they discover, "had lost his hold of the magnetic chain of humanity. He was no longer a brother-man, opening the chambers or the dungeon of our common nature by the key of holy sympathy, which gave him a right to share in all its secrets; he was now a cold observer, looking on mankind as the subject of his experiment, and, at length, converting men and women to be his puppets..." It was this sense of alienation, this assumption of the detached, disinterested attitude of

the spectator, that turned him into a moral leper, a fiend; his moral nature failed to keep pace with his one-sided intellectual development. The result of all his prodigious seeking and striving was to make him commit the Unpardonable Sin. He had severed the ties that bound him to the brotherhood of mankind.

The students were able to give abundant examples to illustrate the prevalence of this sin: the scientist who pursues the truth inexorably, regardless where it may lead, unconcerned about the inhuman uses to which his experiments may be put. They cited the example of the German scientists who at Hitler's behest employed human beings for ghastly experiments. They pointed to the case of the lonely scholar who amasses all the lore of the universe but fails to establish any vital human relationships. They referred to men of genius and encyclopedic erudition who, when they reach middle age, find out that they are incapable of loving and that their life is not only joyless but meaningless. They mentioned the abnormally one-sided development of a man like John Stuart Mill.

Why are students of American literature drawn so compellingly to the fiction of Hawthorne, especially his searching analysis of the semantics of sin? There is something in the character of the man and in the special quality of his genius which holds them fascinated. He is a psychologist as well as a moralist. Though he understands the temptations to commit evil to which all people are subjected, he does not pass judgment on the transgressor, for he is clearly aware that one may resist the deed and still be spiritually unclean. It is not the deed alone that counts in the final estimate, but the state of conscience. Each man stands self-judged. In short, Hawthorne is a puritan, a Christian, even if he is unorthodox in his theology. What he looks for and admires in a man is integrity; what he despises is hypocrisy, the discrepancy between the appearance and the inner truth. There is, of course, more to it than that: the students are struck particularly by the fact that Hawthorne is essentially modern in his moral insights. He is practically pre-Freudian. All that has to be changed somewhat is the terminology. In his fiction, Hawthorne deals with universal spiritual conflicts.

Such intensely rewarding sessions are, of course, rare. It is difficult for the students to sustain a vision of complexity. Most of the time in the classroom the lesson follows the anticipated

pattern. But then suddenly, without warning, the familiar rhythm of routine is broken, a message is received from Mount Sinai, and the students look around them with a wild surmise. It is as if the bandages had been removed from their eyes. The text takes on oracular meanings, the utterances of the teacher are freighted with winged wisdom, their classmates are speaking for the first time with pregnant eloquence. Mystery upon mystery is unfolding before them, not in a classroom but on a planet spinning in space, while an earth-born satellite, Sputnik, revolves around the earth.

Whatever the subject being studied, students can be made aware of the stupendous mystery of the human adventure on earth: the emergence of consciousness, the evolution of mankind from the amoeba or the primordial slime, the triumph of survival, the indefeasible impulse toward transcendence, the birth of the arts and science and religion. Here is the globe now populated by two and a half thousand million people, of the most diverse races and religions, setting up their habitations and working out their destinies on this planet that spins on axis through space at the rate of twenty miles a second. So far as he knows, man is the only species that has achieved consciousness and that confronts the universe with the determination to pluck out the secret of life. The effort to comprehend the beginnings of this epic march of mankind, the why and wherefore of things, raises the human personality to heights, tragic as well as sublime, beyond the reach of the animal kingdom. And despite the amazing spread of his knowledge and the marvelous refinements of his instruments of research, his cyclotrons and atomic bombs and missiles hurled into space, man is able to explore only a fraction of the stellar universe. All around him are empty spaces, islands of matter. He perceives, too, the appearance of form, the advent of order. The closer he observes the phenomena of nature—the galaxies and solar systems and even the submicroscopic world—the more strikingly is he made aware of the presence of order. The universe is not a chaos but a cosmos, a triumph of form, and this form can be studied both aesthetically and scientifically. Speculations such as these enable the student to realize that the quest for a final, unassailable in-

tellectual synthesis is out of the question.

There are, as we have said, no prescriptions—and they would be undesirable even if they were available—for calling forth such numinous moments in the college classroom. When we try to describe these experiences, they fail to stand out with special distinctness, and yet they were real and moving when they were taking place. One thing is certain; the educational effect is not produced by the inspired efforts of one man—the maestro, the magician, the impresario, the instructor. Though he helps to generate the atmosphere conducive to the discharge of the electricity of thought, he is only a catalytic agent. There is the subject he is supposed to teach and there are the students sitting before him. Without their active collaboration, his best educational endeavors would be thwarted. With their aid—and it is usually given generously—the process is not only accelerated but intensified. When their participation ceases to be passive and perfunctory, when they capture the excitement of a heady mood of inquiry, when they begin to bear on their own shoulders "the burthen of the mystery," when for them "the heavy and weary weight of all this unintelligible world" is lifted, when they "see into the heart of things," then the numinous experience is truly theirs. They have earned it.

Lest we be accused of the sin of mixing mysticism with pedagogy, it is necessary to add a salutary word of caution. We are not advocating a "mystical" approach to the study of literature. It would be absurd for the instructor to set out deliberately to arouse a numinous response. It would probably be self-defeating. Worse, it might well prove dangerous. The teacher would sow the wind and reap a whirlwind of emotive reactions and sophomoric abstractions. No, Eliot is perhaps right in declaring that the letter saveth while the spirit killeth. When we struggle to call spirits from the vasty deep, they may perversely refuse to come at our bidding. Not all subject matter, at all times, affords the "proper" occasion for this intellectual awakening, this flash of vision, this perception of the radical mystery at the heart of things. The vision will come in its own time and place when the students are ripe for the experience.

A Student Guide for Interpreting Case Material

The following article is based on several years of experience in guiding students in case analysis. What were first oral remarks (lecture) were placed in writing to maximize their usefulness to students. Students and colleagues have encouraged the author to share them in the hope that other teachers guiding the use of case analysis material may be helped.

By E. JACKSON BAUR

DURING the past dozen years the case method of teaching has gained wide-spread acceptance in the social sciences both theoretical and applied. The method was borrowed from the professional schools of law, medicine, and social work by the applied fields of business, public administration, and speech and finally adapted to the needs of the more theoretically oriented fields of sociology, psychology, and political science. However, little has been written on the techniques of case analysis and interpretation for the use of college students enrolled in undergraduate social science courses. Except for very brief remarks in substantive textbooks, attention to this problem has been confined to books on methods of research in the social sciences and in works on the logic of science written for graduate students and mature scholars.

To fill this need for my own students, I have been lecturing for several years on case analysis. Recently I put these remarks in writing to maximize their usefulness to students. Their favorable response and the encouragement of colleagues among whom I circulated a preliminary draft lead me to present them with a hope that many teachers of the social sciences would find them interesting and adaptable to their own uses. Although these suggestions are intended primarily as a guide for preparing written case interpretations, they also contain useful ideas for the oral discussion of cases.

PHASES OF INTERPRETATION

Interpretation is a process of analysis and synthesis that is developed through a series of phases. These can be thought of as steps that follow a typical progression, though the sequence need not be rigidly followed and it may be appropriate in some cases to change the order of pre-

sentation or combine some steps. They can usually be presented in sequence beginning with (1) identifying the important events from a scientific point of view. In other words, state what has happened in this case that is of interest to you as a student of social science. The case may deal with a problem in personal adjustment, a controversy over a public issue, the emergence of social order within a group, or conflict within a society. There may be one or several important events in the same case.

Next (2) state the approach that you are taking to these events. Set the stage for your analysis of the case by choosing an appropriate frame of reference or conceptual model. There are many useful frames of reference such as the social psychological approach that focuses on persons and their attitudes, the anthropological approach using the concept of culture, the structural-functional method concerned with the interdependence of parts within a social system, the process approach suited to handling dynamic, changing events, the approach from the viewpoint of social control, the conceptual scheme of collective behavior, and other sociological methods. Often more than one approach will need to be used for an adequate interpretation. However, you should always make clear which one you are using.

More specific frames of reference are called conceptual models such as Freud's well known "anatomy of the mental personality," Toynbee's historical mechanism of challenge and response, or W. Lloyd Warner's five-layered system of social classes typical of middle western communities. They are abstract descriptions of a class of social phenomena.

In the third step (3) begin the actual analysis by identifying and classifying the parts or elements in the case. These may be persons, groups, strata, customs, values, social relationships, or any other kind of social phenomena. These are abstract terms that refer to general classes of things.

The fourth phase (4) continues the analysis by specifying relevant attributes or variations in these elements. For example, social classes may be thought of as opened or closed. This is a difference in one attribute of class systems. For another case, it may be more useful to think of class systems as varying in the amount of movement of persons between classes. The first example implies

qualitative and the second quantitative differences.

Proceed (5) to relate these elements or parts to one another. Figuratively stand back and try to see the case in its entirety. This is the phase of synthesis in which changes in one part or element are connected to changes in another. Among the kinds of connections to look for are correlations, sequences, or patterns. Correlations are simultaneous quantitative changes in two or more variables. For example, it has been found that the lower one's status within a group the more hostile are one's attitudes toward outsiders. Similar to correlations are associations between qualitative attributes. Sequences are recurrent cycles of events through time, typical histories of groups, or the stages in development of personality. Patterns are frequent configurations of things within a setting. They are recurrent constellations of interdependent parts. For example, when three persons or groups interact within a situation, one of them tends to function as a mediator between the other two.

In the next step (6) explain these connections or patterns. Go deeper than simply establishing the fact of connections between things, or regularities, and try to explain why these occur. The explanation may be in terms of historic antecedents or in terms of functional interdependence. Causes may be found either in connected events that occurred earlier in time or in related simultaneous events. Class systems may be explained historically by the theory that they originate out of conquest, or functionally by the hypothesis that classes exist to allocate work and distribute rewards. Explanation is accomplished by applying abstract principles or theories to the concrete events reported in the case. We explain a happening by demonstrating that it is a specific instance of a general class of events. If the explanation is sound we can predict other characteristics and consequences from our accumulated knowledge of the class of things to which it belongs.

Critically examine (7) concepts or theories that you have used or might have used. Evaluate their adequacy and suggest possible alternatives or revisions. For example, you may have found that the structural-functional concept of caste, which has been fruitfully used to illuminate race relations in the rural South, is inappropriate for explaining race relations in a northern city and that the concepts of social process are more suitable. Your case may contain an exception to a general theory. Recent studies of urban neighborhoods

have shown that high residential mobility is not necessarily correlated with high delinquency rates unless opportunities for upward status mobility are blocked.

The step (8) that should always come last is that of application. Not until we know why things are, and what can be, should we say how they ought to be. It is important to understand the causes and functions of things before undertaking to change them. Plans and reforms not based on prior scientific research often fail because it is assumed that common sense understanding is an adequate basis for action.

If the course being taught by the case method is an applied field like public administration, penology, or marriage counseling this phase is essential, but in theoretical subjects like social psychology, cultural anthropology, and general sociology, where the objective is understanding what is rather than what ought to be, the consideration of practical application is often omitted.

In this last stage, you may suggest how decisions and actions in the case could have been improved; you can recommend a course of action, changes of policy, or new laws. If the case reports an instance of effective action, some general principles of good administration may be derived from it. The purpose of a recommendation is to achieve some human goal, some group or social objective, consistent with the values of the society. These objectives and values should be explicitly stated. This final stage applies the knowledge and understanding gained through the case interpretation to human affairs.

TECHNIQUES OF INTERPRETATION

Specific suggestions on how to go about interpreting cases are presented without regard to the order of their use or application.

Perhaps the most fundamental suggestion is that you (1) become thoroughly familiar with the concepts and theories of your subject. You must prepare yourself in advance of actually analyzing any particular case by learning scientific terminology and theories so they become part of your vocabulary and vehicles for your own thoughts. The only way that you can acquire this skill is to spend time reading, reflecting, and writing. These are the three "r's" of preparation for case interpretation.

Read the case carefully (2) so that you are familiar with all the facts; then mull over the case. To gain some grasp of the material play

with the ideas that flow through your mind. Imaginatively manipulate the facts without rational restraint; generate a "brainstorm."

After this preliminary free manipulation of the data, critically sort out (3) the tenable from the untenable insights. Retain those that fit and illuminate the facts, and that are consistent with all the facts in the case.

When you read a case, look (4) for hidden meaning in people's statements. Try to read between the lines. The speaker often means something different from what he says. The words may conceal an unconscious meaning. It is useful to assume that every statement a person utters has both explicit and implicit meanings. Your task in case interpretation is to look for both meanings, and not be satisfied merely with the explicit or manifest meaning. When strangers meet and ask one another about their work and schooling, they are manifestly obtaining information about occupations and background, but implicitly they are discovering criteria of class status so that their relationship to one another can be defined as one between equals or of superior to inferior.

Distinguish facts from inferences (5). Every case contains facts, things that are reported to have happened: actions, thoughts, statements. But no case ever contains all the facts that are needed for a conclusive interpretation. To complete the interpretation, you may have to make some assumptions about things that are not reported in the case. You may interpolate or extrapolate from the facts that are present, or add hypothetical "facts" that you imagine are probably there because they seem reasonable and plausible. However, you must be cautious about these inferences and, to avoid misunderstanding, it is necessary to identify them as assumptions or inferences.

When you write your interpretation, specify (6) the concrete facts in the case, to which the abstract concepts or theories apply. Interpretation is largely a process of relating abstract ideas to concrete events reported in the case. Whenever you use a concept or theory, refer to the concrete facts in the case to which it applies. Even though the reference may seem obvious, tie the abstract idea down to a specific event.

If a case is complicated and involves a series of episodes, a number of people, or excerpts from several interviews, it may facilitate analysis (7) to break it up into smaller units. Analyze each one separately and later bring them together. Draw

general conclusions from these separate but related parts of the case.

COMMON ERRORS IN CASE INTERPRETATION

Here are presented some things not to do.

When writing an interpretation (1) do not summarize the events in the case unless you are specifically instructed to do so. Start your interpretation by either identifying important events in the case or by discussing the frame of reference or concepts that you will use. Mention the facts when you have some idea, concept, or theory that will give them meaning. Facts never speak for themselves; it is up to you to provide the voice. Although written interpretations need not begin with a summary of the case, it is common practice for oral discussions to start with a summary. Many teachers begin a discussion session by asking someone to summarize the events of the case. This is an effective way to "warm up" the class and refresh students' memories.

Don't pass premature judgment (2) of approval or disapproval on persons or actions in the case. Value judgments have no place in the analytic phase of your interpretation though they are appropriate in the applied phase when practical recommendations are made for future actions or solutions. Moral or ethical judgments and assertions of good or bad, right or wrong, and praise or blame rather than helping to understand the behavior and the motives of the people in the case, block understanding by closing the subject. Sometimes judgment is inadvertent as happens when we say someone ought to go see a psychiatrist. This may be just a polite way of saying he is crazy. By identifying him as neurotic we have merely pinned a label on him. The important things we need to know are why this person is upset or disturbed and what psychotherapy can do for him.

Don't jump to conclusions (3). Don't classify a fact or apply a theory without considering all of the evidence in the case. Very often the case will contain some striking event which will suggest an immediate insight. There is a temptation to seize upon this first impression. But there may be other events in the case that are not so obvious but still must be taken into account. Be sure that your conclusions are consistent with all relevant data in the case.

Don't challenge the validity of the case (4) because it reports behavior inconsistent with your preconceived ideas. Sometimes the events re-

ported in the case may seem incomprehensible. We start with the assumption that the case material presented to us is valid as far as it goes. It may be incomplete or ambiguous. The statements of people in it may be biased but such statements are facts and useful when we take the bias into account. The presence of bias or prejudice may itself be a significant fact. We are interested in irrational or emotional behavior as well as rational behavior.

Don't criticize the case (5) for not being more complete. No case is ever complete. This is realistic. In life people have to make decisions on the basis of available evidence whether they are administrators, social workers, physicians, judges, or teachers. Scientists formulate hypotheses on the basis of available evidence knowing full well that when additional data are gathered they may modify or disprove the original theory. We have to meet deadlines, so we take action; we have to decide before we can assemble conclusive evidence. When information in the case is obviously incomplete, formulate a tentative interpretation and state what additional data are needed.

Don't assume (6) there must be some practical problem to solve, and if there is no problem, there is no point in discussing the case. It is just as important to understand the causes of normal everyday events as it is the abnormalities and social problems. In fact, the primary objective of the social sciences is to explain the typical behavior of ordinary human beings in everyday situations. A scientist never takes anything for granted.

Don't assume (7) that there is one correct solution which the instructor knows but is deliberately keeping from his students. Every case is a complicated report of facts that can be analyzed in a number of different ways. Case interpretation is a process of individual discovery. It is facilitated by the stimulation of group discussion. Insight cannot be given to you by someone else. Interpretation is a skill that must be learned by practice and cannot be acquired by memorizing someone else's interpretations.

CRITERIA FOR GRADING CASE INTERPRETATIONS

Among the important criteria teachers use to grade case interpretations are insight, relevance, thoroughness, and organization. The quality of the written composition may also be an explicit criterion though if not it indirectly influences the grade by its effect on the accuracy and clarity of communication.

- Insight is the ability to grasp the material, understand it, and see relationships and patterns. Insight is manifest in the ability to synthesize the disparate facts in the case and to see the whole picture. It is evident in the elucidation of the case by applying abstract concepts.
- An interpretation is relevant when it deals with central problems in the case instead of peripheral features. The concepts and theories used should be relevant to the facts of the case. This, of course, means that you must understand these concepts thoroughly and know their essential meanings so that you can use them appropriately. Common sense is not enough in interpreting cases. You need to use the sharper, more powerful tools of science.
- A thorough interpretation takes account of everything that is in the case. It uses all of the pertinent facts. It employs all of the useful tools of analysis and synthesis.
- The interpretation should be organized according to some logical plan. Its presentation should follow an orderly sequence in the development of ideas. No facts or ideas introduced should be left undeveloped.

USES OF CASE INTERPRETATION

Case interpretation is used in social science classes for several reasons. In the theoretical sciences it simultaneously helps students learn abstract concepts and theories and introduces them to a fundamental method of empirical science. In the applied sciences, cases provide examples for critical evaluation in the light of general principles of action or administration. Incidentally, cases also make the course more interesting, vicariously broaden the experience and social horizons of students, and facilitate learning by adding to the variety of teaching techniques.

Cases aid the learning of abstract ideas by providing concrete material to which they can be applied. The case is a factual report—usually of events that have happened to a group of people. It is a slice of life brought into the classroom for analysis like the earthworm dissected in biology classes. And like the pickled worm, it has lost some of the characteristics of its living counterpart. In fact the cases used for teaching purposes are chosen for their simplicity and absence of complicating details which would make them unwieldy for classroom use. A good teaching case

contains no more facts than an interested student can keep in mind.

Cases used for research are usually much longer than teaching cases. They include all the details that the investigator has been able to assemble that may have a bearing on the problem.

The use of cases also acquaints students with the basic method for developing and testing scientific theories. In practice the scientist usually formulates a new hypothesis by studying cases—either by observing real events or by reading reports. He discerns a relationship between two or more variables within a system. For example, he may find that the intensity of prejudice toward non-members is inversely related to prestige within the group. He usually refines the hypothesis by making additional observations or collecting more cases. By comparing them and finding the same relationship he assures himself of its plausibility. He next designs research to test his hypothesis. He may make a systematic search for negative cases, conduct an experiment, carry out a survey, or subject data collected by others to statistical analysis.

The study of a single case cannot alone provide valid conclusions. It is merely suggestive of plausible hypotheses. More thorough and complex research must be designed to verify the initial hypotheses. The analysis of observed or recorded cases serves primarily an exploratory function in the total research process. There is no way other than rich personal experience for the social scientist to get new ideas. Case study is the fundamental method of scientific discovery.

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Team Teaching



L.S.) is a member of the Department of English, both at Los Angeles State College.

By JAMES D. YOUNG
PEARL L. WARD

IN MOST COLLEGE COURSES, the responsibility for the planning and administering of a course falls on the shoulders of one individual. In a private college in Los Angeles, the two authors of this article taught a course in literature and storytelling, working as a team in all aspects of the course as follows:

- We planned the course together.
- We were both always present in the classroom.
- We taught the class together and in alternation.
- We kept notes on the proceedings in the class.
- We planned the tests.
- We graded the papers, notebooks, card files, and special projects.
- We assigned the final grades.

We came from very different departmental responsibilities. One was a professor in the speech department, the other was the college librarian. As each had previously taught the same course but at separate times, the first task was to coordinate materials and ideas and to decide on an approach.

The first year, though experimental, was quite successful and was convincing beyond a doubt that the values gained from the combined efforts were much greater than values gained from separate courses had been. In succeeding years, the difficulties were ironed out and the course was improved upon until it was possible to provide a stimulating and rewarding experience not only for the students but also for the instructors.

Good teaching involves a continuing discovery both for the student and the teacher. If the teacher is simply giving out information which he possesses, it is propaganda. But when the teacher and the student engage in discovery together, each at his own level, real teaching and true learning are taking place. In the usual teaching situation, a faculty member with several students, the learning is taking place almost entirely on the "student" or "lower" level. When another faculty member is added to the teaching situation, although the greatest quantity of learning may still be taking place on the "student" level, there will be breadth and depth of learning and teaching taking place at the "teacher" or "higher" level also. The stimulation to learning provided by the professors who are "testing" their knowledge by submitting it to the students and to each other in the presence of students, conduces to student growth. This climate, it is assumed, is basic to the primary function of teaching. It is axiomatic that if the student is exposed to a finer quality of teaching, the learning situation for him will be improved.

We felt that in the process of reading, discussing, and coordinating we stimulated and challenged each other, and felt that we were thus able to create a better climate for learning. Our mutual exchange of ideas was one of the most stimulating avenues to learning and became one of the greatest strengths to the program. Love of a subject by a teacher brings respect from the students. To see more than one teacher who loves and respects a subject would seem to deepen and strengthen that respect. Mark Van Doren said: "They may think such love to be a queer thing, and they may resolve never to fall victim to it themselves; but their respect for it will never cease. And respect for a subject, like respect for ideas, is the beginning of wisdom; or at the very least, respect for love of a subject."

The values we found in preparing a course together were:

- The teachers stimulate one another with ideas, either new ones or remembered old ideas.
- They test their ideas against each other's thinking.
- They bring to a verbal or objective level the ideas they know and understand.
- They share reading materials and references and become unselfish about ideas and knowledge.
- Each may observe the other in a teaching situation, and thus get new ideas about his own teaching, and can make suggestions about the teaching he observes.
- It is possible for two teachers to teach larger groups.
- The burden of administrative work and the burden of lecturing are shared.
- The importance of social sharing of literature is exceptionally well demonstrated.
- More careful preparation is made for a class.
- By each teacher's own research and sharing of material, it is more readily possible to keep the course current.
- The teachers develop objectivity about the ideas relating to the course.
- Different professors can serve the differences in the students.
- The students will not feel that an individual professor is showing favoritism.
- It is a healthy situation in which it is possible to articulate agreements and differences of opinion between the instructors in the presence of the students.

The pitfalls would center around the teachers as follows:

- Poorly yoked teachers could occasion clash of personalities.
- There may be rigidity of ideas on the part of one or both of the teachers, and either or both of them may feel threatened by the other.
- There may be a refusal to accept differences of opinions on some matters.
- One of the teachers with a stronger personality may assume the role of dictator.
- Without close cooperation, one teacher may find himself doing the bulk of the work.
- Students may attempt to create ill feeling between the teachers: (a) by fostering misunderstandings, (b) by "building a case" against one of the teachers in supporting the ideas of one teacher which may be opposed to or at least in question by the other teacher.

Our experience with team teaching gives impressive evidence that there are more advantages than disadvantages. We insist, however, that there should be more research and exploration of team teaching before conclusive statements are given. We do not wish to imply that it is necessary for a team of teachers to use this technique indefinitely. In fact, it is possible that if the same two teachers used the technique for too long a time, weaknesses could develop. After a semester or two of working together, many values would be derived from a project of this kind, and the teachers could then continue independently, or either or both could continue team teaching with another teacher, perhaps with a person younger in the field of teaching.

Education consists in the acquisition of certain habits of mind, certain kinds of intellectual responsibility, aesthetic awareness, and certain qualities of the heart. We have attempted to create an atmosphere or climate which makes it more possible for students to gain not only knowledge, but also sharpened perceptions, mellowed judgments, and enlarged sympathies.

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The Paradox of Education for the Gifted



We tend to accept educational visibility in place of educational value according to the author (B.A., Harvard; Ph.D., Michigan) of the following article. He points out the pressing need for planning discussion and research on every aspect of our blueprints for the guidance of the gifted. He is a member of the American Psychological Association's division of the teaching of psychology.

By ELTON B. MCNEIL

EDUCATORS HAVE LEAPED on a horse and ridden off in all directions. While this statement may be grammatically abhorrent and literally impossible, it is an apt description of the current status of the variety of plans being initiated in the rush to educate gifted children. In a sense, we are the victims of our own success. We have devoted so much energy to viewing with alarm the neglect of the intellectually superior that we may be less prepared to fulfill our glowing campaign promises. In the haste to make amends for the educational barrenness of the past, educators everywhere are enthusiastically and vigorously stitching away at what is likely to become one of the most elaborate academic crazy-quilts yet devised.

The danger inherent in this flurry of activity is not just its lack of system or coherence—a familiar condition for all educators—but its tendency to accept educational visibility in place of educational value. The need to do *something* is a compelling one and may lure us into limiting the aims of these special programs to the production of individuals into whom more skills, more facts, and a wider range of content are jammed in a shorter period of time. Among educators, there is an ancient and unshakeable adherence to the maxim that the well-endowed are *able* to do more, therefore they *ought to do more*. With great gusto, but without critical examination of this motto, educators have "enriched," they have "accelerated," and they have polished our brightest to a greater sheen. If this is to be the height of our educational level of aspiration, such timorousness and concern with expediency may deprive us of the opportunity to educate in such a way that the

talented may evolve into the gifted and creative.

Although it smacks of heresy, I would suggest that current designs for education not only neglect the nurture of creativity but they systematically exclude the possibility of its development. This occurs because there exist fundamental flaws in our educational system, in our culture, and in our comprehension of the nature of creativity and the proper conditions for its cultivation. The obstacles which prevent creativity from becoming an integral part of our tutelage of superior young people might be labeled—harshly but accurately—Ignorance and Tradition. These terms can be specified as follows:

IGNORANCE

We do not understand the nature of creativity; we are unable to predict which persons have within them the creative spark; we are not certain whether education can teach persons to become creative or merely discipline those already creative.

TRADITION

The methods by which we select talented children for educational enrichment are inappropriate for the detection of the creative ones among them; by its very nature, the educational system fosters educational and social conformity; the American culture is not prepared, psychologically, to tolerate the realities of special consideration for the intellectual elite.

IGNORANCE

The meager sum of our knowledge about creativity can be attributed, primarily, to the complex and seemingly unsolvable problem of establishing a valid criterion for measuring it. Since history sparkles with the names and achievements of men of eminence and genius, it promotes an illusion that there is widespread agreement about the characteristics and qualities of true creativity and inventiveness. The longer an individual's contribution withstands the inevitable erosion of time, the more substance this illusion tends to accrue. Eventually, biographical works attempt to reconstruct the early signs of impending illustriousness, but these accounts uniformly produce the same feeling as seeing a movie in which you know in advance that the butler did it. Retrospective chronicles suffer from a crushing bias that reduces them to the status of selective reports of interesting anecdotes. The judgment of originality and creativity is a highly subjective and frequently provincial event for which even the test of time is not infallible.

Studies (7,9,10,11) which have sought to catalog the early backgrounds of gifted children have uniformly pointed to the intellectual stimulation of the home and the superior educational level of the parents as necessary but not sufficient conditions for the appearance of originality. Correlates are not always causes and the search for the origin of creativity has been extended to the assessment of the dynamics of the personality structure of living, eminent scientists(6). This line of research offers promise of one day providing a unique method of understanding the psychological needs which impel a budding intellect into byways never ventured by equally talented but uninspired persons. We understand too little of the creative process to detect it in its primitive stages.

The first explorations of the characteristics of gifted children tended to treat leadership, achievement, and a high I. Q. as equivalents of creativity and failed, consequently, to probe deeply into the internal psychological experience of the individual. Our most recent endeavors have corrected this omission but we are still limited by the nature of the problem of verifying the accuracy of our predictions of creativity. As long as creativity and achievement are seen as synonymous, a massive program of research is the only answer. The most "likely" potential creators and innovators must be assessed at an early age and these measures compared with their later performances. What constitutes "likelihood" tends, at the present time, to be an article of faith and theoretical predisposition.

If it is not a violent distortion of the facts to state that the nature of creativity is an enigma to educators, and to state that our ability to detect the creative spark is limited, then the relationship of education to creativity must certainly be obscure. Do those with superior endowment invent as a means of maintaining emotional stability? Is originality merely a highly adaptive means of achieving recognition and acceptance by others or is it an artifact of unusual capacity? The paradox for education is that it has yet to resolve the fundamental issue regarding creativity—can it be taught or merely nurtured? Are we to be the parents of these unique intellectual patterns or is our role that of highly trained midwife? To instill this ability in others we must train them to discriminate between the original and the unoriginal, we must teach the principles of critical judgment, and provide lessons in how to think brill-

iantly and effectively. Nourishing a native capacity may call for a quite different pattern of education in which stimulation, enrichment, and acceleration are the prime requisites. The difference between the two approaches is analogous to the distinction between kindling a fire as opposed to keeping it supplied with dry wood.

How can we educate the exceptional child if we do not understand him? Let me reemphasize this vital question with a somewhat bizarre example. Imagine the dilemma of a teacher responsible for designing the curriculum for a group of gifted children whose roster read as follows: Bach, J., Curie, M., DaVinci, L., Darwin, C., Einstein, A., Freud, S., Hitler, A., Kant, I., Lincoln, A., Marx, K., Newton, I., Shakespeare, W., Whitman, W. The sense of helplessness each of us would feel in such a situation is mute evidence of the mismatch of methods and goals that probably would occur. Undoubtedly, each of us would resort to the solution which characterizes current plans for special education. We would "enrich" and "accelerate" with the unspoken hope that creativity would somehow emerge.

TRADITION

If man's greatest contributions have been the outcome of tremendous native capacity coupled with a creative approach to problems, and if we assume correctly that the process of creating requires the freedom to think unconventional thoughts, then it must be concluded that true creativity and conformity are antithetical in nature. This observation would suggest that in the search for our most gifted we ought to discriminate between the talented conformists who can be trained to become the brilliant enhancers, embroiderers, and manipulators of the ideas of others and the equally talented nonconformists who may one day author imaginative breakthroughs to new knowledge. Our traditional lumping together of talent, creativity, and conformity has resulted in the invention of selection devices which are saturated with measures of conformity—conformity which may bear a highly negative correlation to creativity.

At first, the selection of our most able children was left to the persons who seemed logically to be in the best position to make such judgments—the teachers. Before long, researchers came to the startling conclusion that teachers (who were themselves models of conformity to society's dictates) were ill equipped to separate brightness

from social adjustment (1, 3, 4, 5, 7). The substitution of intelligence tests in place of teacher's judgments bettered the selection but not much. Brightness is essentially a social or cultural concept and the standard intelligence tests are loaded with the factor of adaptive social skill. When selection methods were broadened to include a variety of measures of individual capacity there was again a systematic exclusion of indices free of the requirement of conformity. Consider, for example, the typical qualifications demanded of those whose scholarship the society will support financially: a high I.Q.; devotion to, and success with, current educational methods and goals (as reflected in honors, prizes, high grades); social leadership and acceptance by peers; altruism; good citizenship. It is a rare scholarship that specifies that the recipient must: be dissatisfied with the prevailing social mores and customs, be skeptical about submerging his personal values in the will of the group, be irreverent regarding the sacredness of traditional ideas, and be cynical about the notion that this is the best of all possible worlds.

Unquestionably, our present methods of discovering talent—had they been applied in days gone by—would have discarded the creators of some of man's most magnificent insights. By no stretch of the imagination could the majority of great men of the past be described as model citizens. Throughout their school careers they might have been classified as "underachievers" since they failed to produce in conformity with the standards of that era. It may well be that many of the "underachievers" of today have exactly the combination of creativity, ability, and nonconformity which will, of its own strange chemistry, one day achieve earth-shaking advances in knowledge. Fortunately, this seemingly unsalvageable group of capable students is being scrutinized with greater care by scientists (2).

Perhaps the one-sidedness of current talent hunts is not as inappropriate as it would at first appear. The educational facilities which will accommodate such gifted children are traditionally oriented to programs and methods designed for students who are comfortable with the social system and interested in devoting their energy to pursuing its goals. Our institutions of higher education have evolved in such a way that they too foster a conformity that has the average student as its anchoring point. The structure of the typical American university contains many characteris-

tics which, geared to the common good, may be ill suited to stimulate the uncommon production. A most notable example is the decline of the personalized relationship between professor and student. At one time, a professor was a mentor who attended to the moral, philosophical, and educational growth of a small group of protégés. He was also a wise counselor who defined an intellectual way-of-life for his disciples. Today, a massive catalog lists courses by discipline; counseling is done by a group of specialized professors; and social, emotional, or moral problems are the province of an even more discrete collection of professionals. This fragmentation has proceeded on the assumption that the person is no greater than the sum of his parts and has caused the educator to lose sight of the pattern of individual development while depriving the student of suitable models of a whole person. The most important consequences have been to transform the molding of minds into a highly impersonal and superficial affair and to discount the contribution to growth of deep, long-lasting personal relationships. If this dehumanized educational subsociety is exacting a heavy toll from the average student, consider how prohibitive the cost must be to the exceptionally able or creative ones among them. Since the modal program for our gifted students represents only a slight modification of this traditional arrangement, we ought to reexamine the basic tenets on which our educational system is founded and look more closely at the kind of mutation it seems to have become.

Why has not our educational approach been altered more drastically and inventively for our outstanding students? I would suggest, first, that we are the victims of our own conformity to tradition; there is security in our familiar and practiced habits. A much more crucial motivation for this inertia is the tendency for educators to reflect the confusion of the culture regarding the proper kind and degree of privilege to be accorded to intellectually superior individuals. Not too many years ago, the public image of the chemist and physicist was that of a somewhat unkempt, absent-minded, strange intellectual who puttered in a dimly lit laboratory solving problems that had no practical application. The course of world affairs has tidied up this image remarkably so that now it more nearly resembles the young, square jawed, personable, and dedicated savior of society. This elevation to an honored position has not meant an end to anti-intellectualism; it reflects

merely the provision for exceptions to it. The philosopher, poet, writer, artist, and musician are still regarded with suspicion because of their apparent "idleness" in the work-a-day world. This public uncertainty is echoed in the halls of learning and there remains disagreement about the degree to which students of high potential should be allowed to deviate from the average educational pattern. The question of whether the educational experiences of superior students should even resemble those of the average student has not had an adequate hearing.

THE NEXT TEN YEARS

It seems evident that there is no time like the present for a critical examination of the direction our care of the gifted seems to be taking. There is a pressing need for planning, discussion, and research focused on every aspect of our blueprints for the guidance of these singular children. Our ignorance regarding the origin of creativity, its nature, and the methods for its detection should be dispelled as rapidly as our research resources will permit. Since some designs for special education are now in operation, and new ones are being forged daily, a detailed consideration of the procedures for selection of participants and the educational experiences to which they are exposed ought to be a first order of business. A clearing-house of comparative information should be established to coordinate these diverse efforts and to evaluate, interpret, and communicate fresh insights as rapidly as they occur.

Such an agency should be charged with a series of other responsibilities if we are to have intellectual order rather than educational chaos. In addition to encouraging basic research and giving support and direction to the inauguration of new programs, it might help to author a systematic means of scoring the successes and failures every plan is certain to encounter. We must know exactly where and why we attain our goals and the reasons for falling short of them.

The complex issue of the goals of education for superior students needs considerable clarification. Goals and aims usually are discussed at the most abstract and innocuous level possible and the flow of glittering generalities has encouraged a degree of agreement that is probably more apparent than real. A vital function of a national coordinating agency would be to promote a clear statement of principles on which educators could

agree and which could then serve to orient future efforts that might otherwise drift aimlessly.

A long range task that must be performed at both a national and local level is to educate the American public to the social changes that extensive programs of special education will inevitably bring about. If we can visualize the day when every school will make unusual provisions at every age for those with superior endowment, we can anticipate that finding a comfortable niche in society will not be easily accomplished for graduates of such programs. Like any other visible indicator of superiority or inferiority, special treatment tends to be viewed as privilege and engenders an intense emotional reaction. The training of the gifted cannot occur in a social vacuum and if we are not prepared to cope with the antagonism and resentment of the average person we may lose the public support which is so vital to the future of our plans. It would be tragic to be lured into a sense of complacency which convinces us that we have seen the last of anti-intellectualism.

If we are to foster creativity, as well as technical ability, every plan of intellectual growth must demand the following characteristics of its students:

- an insatiable urge to inquire into the nature of the world about them.
- a willingness to be skeptical of man's most cherished beliefs and immutable laws.
- a capacity to pursue this inquiry in the face of opposition from their fellow man.

This will certainly produce some emotional disruption and internal discord for the bearers of such a heavy responsibility. Yet a kind of do-it-yourself philosophy of mental health is typical of the planning for our brightest students. The provision of means for enriching their comprehension of the psychological workings of themselves and their fellow human beings is notable by its absence. The devotion of educators to goals of intellectual and academic accomplishment has been at the expense of even the most haphazard calculation of the importance of emotional stability and self-insight as an integral part of the acculturation of these valuable human resources. A crippling emotional conflict could undo the most thorough and energetic attempts to sharpen intellectual and rational capacities.

Finally, let me view with alarm one more

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facet of our preparation to insure a steady flow of able, well schooled persons into the culture. If the proverbial Man From Mars were to examine our conception of an ideal scheme for teaching our most remarkable children, he would be compelled to conclude that these students must have been hatched in an incubator. Parents seem to be excluded from our designs in a most thorough and absolute fashion (5). We seem to realize that they are bright people but we are blind to their potential as an educational resource. The possibility that they might formally or informally, directly or indirectly, assist in the educational process or complement the efforts of professionals has been woefully overlooked. We make a great to-do about the influence of parents, home, and neighborhood on delinquent and anti-social children and bend every effort to mold these influences to become congruent with our educational objectives. We feel no such anxiety about the extracurricular influences to which bright children are exposed. To the degree that we exclude parents as participants in our endeavors, we weaken the total design. We have not been very inventive with parents in traditional educational settings; we ought not compound these errors in the education of the gifted during the crucial next ten years.

Educators tend to view their role as that of a catalyst in the process of intellectual growth. Technically, a catalyst is a substance which may be recovered practically unchanged at the end of a reaction and this is not likely to be the outcome either for the individual educator or for the educational system. The emphasis on custom tailoring education to fit the capacities and needs of the individual and the raising of standards of performance for able students cannot help but radiate and infuse the curriculum of the average student. The current trend to homogeneous grouping of stu-

dents according to ability and achievement will be accelerated and the number of divisions will increase as rapidly as they can be discriminated. The teachers of the gifted will require more rigorous training, they will command higher salaries, they will be given more freedom in determining the curriculum, they will enjoy an enhanced prestige in the community, and they will suffer jealous sniping by the teacher-of-the-average who will discover he has somehow become a second class citizen. Attention to the gifted is initiating a subtle social change that will transform our institutions of education in a dramatic and drastic fashion. Educators will not be passive observers of this cultural alteration; they will experience as many changes as they produce in their students. This issue of the internal changes in the professional cannot be ignored for very long.

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"If True Values Do Exist"

THE LARGER LEARNING—TEACHING VALUES TO COLLEGE STUDENTS edited by Marjorie Carpenter. Dubuque, Iowa: Wm. C. Brown Co. 1960. xv + 78 pp. \$3.00.

A review by ORDWAY TEAD

THIS IS THE MOST RECENT in Professor Earl J. McGrath's series on general education, and it fulfills the promise of its title in discussing in some detail how the teaching of values in college is being actually approached. The editor rightly says that "an institution of higher education ought to assist the student in constructing a satisfying and consistent view of the world and his place in it is now a generally accepted view."

And Professor Huston Smith in his excellent introductory chapter "Values: Academic and Human" starts with the premise that the internal equipment of the student which is necessary for the good life "includes values as well as skills."

After a cogent statement of the inescapable academic values—intellectual honesty, scope of knowledge, "dialectical agility" and aesthetic sensitivity—Professor Smith proceeds to a penetrating answer to the question as to why there is still faculty resistance to broader value consideration. He takes up and answers five attitudes which have currently been deterrents. These are: the view that reason alone is the key to the good life; the belief that all values are relative; "the cult of

objectivity"; belief that there is a distinct division of labor as between college, home, and church; and respect for the spiritual autonomy of the student.

The answers to these five points are alone worth the price of the book because of what seems to this reviewer to be their irrefutable nature. If true values do exist, he finally concludes, "not to help our students to discover them is to leave them a prey to false ones."

Professor Carpenter's chapter of "Practices in Value-Oriented Courses" contains a variety of concrete examples and suggestions, as does the chapter on the teaching of biology.

John Bushnell's chapter goes helpfully into the problem of the disparity between the culture content and outlook of the faculty and the cultural cluster which represents the student state of mind. "Student society," he concludes, "seems to have the upper hand—and this presents a knotty problem in the area of teaching values."

Professor Lewis B. Mayhew concludes the volume with a good chapter on appraising outcomes.

All in all this is an informed, persuasive, helpful discussion of an exigent problem. It is to be warmly recommended to all college teachers, both the convinced and the skeptical. It marks a genuine advance in the maturity of the treatment of this vital topic.

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